

DQ #4268

February 11, 2016

RE: Sanimax USA, LLC  
Final Revised Air Permit Application  
Facility ID: 03700070  
Tracking No.: 4268  
SEH No. 131141 32.00

Mr. Richard Cordes, PE  
Principal Engineer  
Minnesota Pollution Control Agency  
520 Lafayette Road N  
St. Paul, MN 55155-4194

Dear Mr. Cordes:

On behalf of Sanimax USA, LLC (Sanimax), Short Elliott Hendrickson Inc. (SEH®) submits this final revised State Air Permit application to incorporate several changes at the Sanimax facility. Sanimax is an animal, vegetable, and food processing waste recycling plant located at 505 Hardman Avenue South, South St. Paul, Dakota County, Minnesota. The facility operates under Air Emission Permit No. 03700070-006.

Through the major permit amendment process (application originally submitted in May 2013), Sanimax has proposed to replace Boiler No. 1 (EU001) with a new 98 million British thermal units per hour (MMBtu/hr) natural gas-fired boiler (EU023) at their facility. The new boiler will have No. 2 diesel fuel (distillate oil, which includes biodiesel<sup>1</sup>), propane, refined animal fats and vegetable oils (RAFVO), and glycerin as back-up fuels. Additionally, Sanimax requests to formally discontinue use of No. 6 fuel oil at the facility, remove the facility-wide SO<sub>2</sub> emission limit, expand the operating pressure drop ranges for their Venturi scrubbers, and update emission limits for several emission units. These proposed changes will allow Sanimax to operate under a State Permit instead of their current Part 70 (Title V) permit.

#### POTENTIAL TO EMIT SUMMARY

The facility-wide potential to emit (PTE) for criteria pollutants particulate matter (PM), PM less than 10 microns in diameter (PM<sub>10</sub>), PM less than 2.5 microns in diameter (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), volatile organic compounds (VOC), carbon dioxide equivalents (CO<sub>2e</sub>), and hazardous air pollutants (HAPs) is provided in Table 1 below. PTE for the fuel combustion units at Sanimax were updated based on worst-case fuel emissions and to include condensable PM.

<sup>1</sup> Distillate oil, as defined in the federal Standards of Performance for Small Industrial, Commercial, and Institutional Steam Generating Units (40 CFR 60, Subpart Dc) and the National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers (40 CFR 63, Subpart JJJJJ), includes biodiesel and biodiesel blends.

Additionally, VOC PTE for the PPF cooking and pressing processes (EU020, EU021) were updated (increased) under the conservative assumption that the Venturi scrubber does not provide VOC control.

Emission calculations (PDF and Excel versions) are included with this submittal.

**Table 1  
Facility PTE**

| PTE (tpy)                                                                                                                       | PM    | PM <sub>10</sub> | PM <sub>2.5</sub> | SO <sub>2</sub> | NOx    | CO   | VOC  | CO <sub>2e</sub> | Total HAPs |
|---------------------------------------------------------------------------------------------------------------------------------|-------|------------------|-------------------|-----------------|--------|------|------|------------------|------------|
| Current Facility PTE*                                                                                                           | 57.6  | 50.2             | 31.8              | 240             | 96.0   | 26.5 | 13.1 | 55,220           | 0.60       |
| Change in Emissions                                                                                                             | (7.7) | (10.6)           | (7.8)             | (175.6)         | (35.1) | 17.0 | 11.5 | 39,814           | 0.38       |
| Proposed Facility PTE                                                                                                           | 49.9  | 39.6             | 24.0              | 64.4            | 60.9   | 43.5 | 24.6 | 95,034           | 0.98       |
| * Potential to emit from the existing facility, as presented in the current Total Facility Operating Permit (No. 03700070-006). |       |                  |                   |                 |        |      |      |                  |            |

#### REQUESTED PERMIT AMENDMENTS

Sanimax requests that the following changes be made to Air Emission Permit No. 03700070-006. Additional information on each change is provided in the attached MPCA application forms and redlined permit pages.

##### Addition of New Boiler (EU023)

Table 2 below includes specifics regarding the new boiler (EU023) to be installed at the facility. The boiler will primarily fire natural gas, with the option to fire RAFVO, propane, No. 2 diesel (distillate oil), and glycerin.

**Table 2  
New Boiler – EU023**

| Emission Unit / Stack/Vent ID                                                                                                      | Description  | Firing Capacity, MMBtu/hr | Fuel Types                                          | Control Equipment      |
|------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-----------------------------------------------------|------------------------|
| EU023 / SV020                                                                                                                      | Boiler No. 3 | 98                        | Natural Gas<br>(No. 2 diesel, propane for back-up)* | Low-NOx Burner (CE026) |
| *RAFVO and glycerin are also optional fuels, although emission testing must be conducted during the initial firing of these fuels. |              |                           |                                                     |                        |

##### Removal of Boiler No. 1 (EU001), No. 6 Fuel Oil Usage, and SO<sub>2</sub> Facility-wide Emission Limit

Upon the installation and initial operation of the new boiler, Boiler No. 1 (EU001) will be removed. Along with EU001, the use of No. 6 (residual) fuel oil at the facility will be discontinued. Discontinuing the use of No. 6 fuel oil will significantly reduce the facility's PTE for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and NOx.

Sanimax also requests that the facility-wide SO<sub>2</sub> limit of 240 tpy and associated operating and recordkeeping requirements be removed from the permit. No. 2 diesel fuel will be limited to 500 parts per million (ppm) (0.05%) sulfur, and RAFVO and glycerin will contain up to 0.1% sulfur. The facility will keep

records of fuel sulfur content through supplier certifications or laboratory analysis reports of Sanimax-produced fuels. These changes will decrease potential SO<sub>2</sub> emissions to well below PSD major source thresholds such that the facility-wide SO<sub>2</sub> limit is no longer needed. These changes affect GP001, EU002, and EU006 in Table A of the permit.

#### **RAFVO and Glycerin**

Air Emission Permit No. 03700070-006 currently allows Sanimax to fire a variety of fuels in the combustion units. RAFVO, and glycerin are both produced at Sanimax facilities and are listed as optional fuels at the facility. These commodities are generally only fired when economically feasible. It is requested that unrestricted firing of RAFVO and glycerin be allowed after initial performance testing on the fuels to demonstrate compliance with proposed emission limits.

Emission test results conducted at another Sanimax facility were used to determine PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, VOC, and CO emission factors from RAFVO combustion. CO<sub>2</sub> emission factors for both rendered animal fat and vegetable oil were obtained from 40 CFR Part 98, Table C-1. AP-42 emission factors for fuel oil were used for other pollutants.

#### **Scrubber Pressure Drops**

Sanimax has also requested to expand the operating pressure drop ranges for their Venturi scrubbers (CE001, CE003, and CE012) from the current range of 4.0 to 6.0 inches of water column to a range of 3.5 to 7.0 inches of water column. This expanded range will allow the scrubbers to operate with higher water recirculation rates, leading to higher particulate removal, and will also allow the pressure drop ranges to account for fluctuations related to seasonal operating temperature and barometric pressure changes.

### **REGULATORY APPLICABILITY**

#### **Determination of Solid Wastes Used as Fuels**

Rules found in 40 CFR Part 241, *Solid Wastes Used as Fuels or Ingredients in Combustion Units*, define which non-hazardous secondary materials are not solid wastes when combusted. Refined animal fats and glycerin, which are not specifically identified as fuels in other regulations, are allowed to be used as fuels because all of the following are true:

1. The refined animal fats will be processed to remove contaminants and improve the fuel characteristics of the materials, turning animal by-products into a non-waste fuel.
2. The glycerin will remain in the control of the generator (i.e., Sanimax).
3. The use of refined animal fats and glycerin as fuels meets the legitimacy criteria for fuels:
  - a. The refined animal fats and glycerin will be managed as valuable commodities prior to use,
  - b. The refined animal fats and glycerin have meaningful heat values, and
  - c. The refined animal fats and glycerin contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s).

The attached memo re: Use of Refined Animal Fats and Glycerin as Boiler Fuels provides additional details regarding these fuels and 40 CFR Part 241.

#### **NESHAP Subpart JJJJJJ**

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Source Industrial, Commercial, and Institutional Boilers (40 CFR Part 63 Subpart JJJJJJ) applies to the new and existing boilers at Sanimax. No emission limits apply to the boilers under NESHAP JJJJJJ. Per 63.11225(c)(2)(ii) of NESHAP JJJJJJ, Sanimax will keep records as to how the operations that produced the animal fats satisfy the definition of "processing" in 40 CFR 241.2, the overall control of the Sanimax-generated



glycerin, and how both of these materials meet the legitimacy criteria in 40 CFR 241.3(d)(1). Copies of NESHAP A and JJJJJJ highlighting portions of the rule applicable to the both the existing boilers and the proposed boiler are included in this submittal.

#### **NSPS for Subpart Dc**

The New Source Performance Standard (NSPS) for Small Industrial, Commercial, and Institutional Steam Generating Units constructed after June 9, 1989 with heat input capacities between 10 and 100 MMBtu/hr (40 CFR Part 60 Subpart Dc) applies to the new boiler at Sanimax. Sanimax will comply with the applicable reporting and recordkeeping provisions of NSPS Dc. To comply with sulfur limitation of the rule, Sanimax proposes to keep records of the sulfur content of all fuels fired in the form of fuel supplier certifications for purchased fuels and laboratory analyses for Sanimax-produced fuels. Sanimax will comply with applicable opacity limits. Copies of NSPS A and Dc highlighting portions of the rule applicable to the proposed boiler are included in this submittal.

#### **DISPERSION MODELING**

Page A-1 of the Sanimax Air Emission Permit No. 03700070-006 states: "For changes that require a minor, moderate, or major permit amendment and affect any modeled parameter or emission rate documented in Appendix II, a Remodeling Submittal requirement is triggered." An Equivalent or Better Dispersion Modeling Analysis for PM<sub>2.5</sub> emissions from the proposed project was submitted to MPCA on April 23, 2015 and approved on May 13, 2015.

#### **CONCLUSION**

We appreciate the work MPCA has done so far on this permitting effort and look forward to the issuance of the final State Permit soon. Please contact me at 651.490.2032 or [khillbrandt@sehinc.com](mailto:khillbrandt@sehinc.com) if you have any questions or need additional information.

Sincerely,

SHORT ELLIOTT HENDRICKSON INC.



Katie Hill Brandt, PE  
Environmental Engineer

Attachments: MPCA Air Permit Application Forms (Includes CD-01 Forms and Redlined Permit Pages)  
PTE Calculations (PDF and Excel versions)  
Highlighted NSPS Subparts A and Dc and NESHAP Subparts A and JJJJJJ  
Memo: Use of Refined Animal Fats and Glycerin as Boiler Fuels

c: Ben Bertram, Sanimax USA, LLC

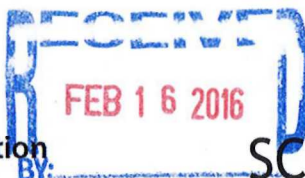
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Minnesota Pollution  
Control Agency

520 Lafayette Road North  
St. Paul, MN 55155-4194



## SCP-01: Submittal Cover Page

Permit Application/Notification/

Determination Request Fee Submittal

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 7

Check From: \_\_\_\_\_  
Check # No Check  
Amt of Check \_\_\_\_\_  
Date of Check \_\_\_\_\_  
Date of Dep. \_\_\_\_\_

1a) AQ Facility ID number: 03700070 1b) Agency Interest ID number: \_\_\_\_\_

2) Facility name: Sanimax USA, LLC

3) Submittal is (choose from the following options and then complete the remainder of item 3 as directed):

- ☒ The final certified (or recertified) version of a previously-submitted permit application. **Complete Section 3A.**
- ☐ Additional or supplemental information requested by permit staff during the permit-writing process. **Complete Section 3A.**
- ☐ A request that the Minnesota Pollution Control Agency (MPCA) make an applicability determination. **Complete Section 3A.**
- ☐ An application for a new individual Part 70 or State permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3E.**
- ☐ An application for reissuance of an individual Part 70 or State permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3B.**
- ☐ An application for an amendment to an existing individual Part 70 or State permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3E.**
- ☐ An application for a registration permit, capped permit, or general permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3C.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3C.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3E.**
- ☐ An application for an administrative change to an existing registration, capped, or general permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3C.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3C.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3E.**
- ☐ A notification required under Minn. R. 7007.1150(C); Minn. R. 7007.1250, subp. 4; Minn. R. 7007.1350; Minn. R. 7007.1110, subp. 10, 11, or 11a; or Minn. R. 7007.1146, subp. 2(G). **Complete Section 3D.**
- ☐ A notification from a hot mix asphalt plant holding a registration permit of the intent to incorporate ground tear-off shingles and/or manufacturer scrap shingles in the hot mix asphalt. **Complete Section 3D.**

## Section 3A - Request for applicability determination, recertification of a previously-submitted permit application, or supplement to a previously-submitted permit application

Use this section only if your submittal is one of the following:

- The final version of a previously submitted permit application, incorporating changes negotiated through the permitting process, or
- Submittal of additional or supplemental information requested by permit staff during the permit-writing process, or
- A request for the MPCA to make an applicability determination.

For final versions and supplemental information, enter the "tracking number" which can be obtained from the MPCA permit staff working on the permit.

Check one of the boxes below. Do not complete Sections 3B, 3C, 3D, or 3E. Continue with item 4 of the form.

| Choose one of the following:                                                                                         | Quantity | Points | Total points |
|----------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|
| <input checked="" type="checkbox"/> Recertification of a previously-submitted permit application – Tracking No: 4268 | NA       | NA     | NA           |
| <input type="checkbox"/> Supplement to a previously-submitted permit application – Tracking No: _____                | NA       | NA     | NA           |
| <input type="checkbox"/> An Applicability Determination Request                                                      |          | x 10 = |              |

## Section 3B - Application for an individual Part 70 or State permit, reissuance of an individual Part 70 or State permit, or amendment of an individual Part 70 or State permit

Is this application replacing an application that was returned as incomplete (not an application that was denied)?

☐ No ☐ Yes Enter the Tracking Number of the incomplete application being replaced: \_\_\_\_\_

Check as many of the boxes below as apply. If your submittal also includes notifications that do not require a permit application, also complete Section 3D. Then continue with item 4 of the form.

| Choose one of the following:                                                                                                                                     | Quantity | Points | Total points |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|
| <input type="checkbox"/> Application for an individual Part 70 permit                                                                                            |          | x 75 = |              |
| <input type="checkbox"/> Application for an individual State permit                                                                                              |          | x 50 = |              |
| <input type="checkbox"/> Application for reissuance of an expiring individual Part 70 or state permit                                                            |          |        |              |
| Expiration date: _____ Application due date (180 days prior to expiration): _____<br>(mm/dd/yyyy) (mm/dd/yyyy)                                                   | NA       | NA     | NA           |
| <input type="checkbox"/> Application for a major amendment to an individual State or Part 70 permit                                                              |          | x 25 = |              |
| <input type="checkbox"/> Includes reconstruction or modification of a New Source Performance Standards (NSPS) Affected Facility not subject to New Source Review |          |        |              |
| <input type="checkbox"/> Application for a moderate amendment to an individual State or Part 70 permit                                                           |          | x 15 = |              |
| <input type="checkbox"/> Application for a minor amendment to an individual State or Part 70 permit                                                              |          | x 4 =  |              |
| <input type="checkbox"/> Application for an administrative amendment to an individual State or Part 70 permit                                                    |          | x 1 =  |              |

### Additional information (check all that apply):

- ☐ Submittal was preceded by pre-application work with the MPCA (for example: dispersion modeling or modeling protocol review, AERA review, environmental review). The tracking number associated with the preapplication work is: \_\_\_\_\_
- ☐ Permit will replace an existing permit of a different type (e.g., replacing a Capped Permit with an individual State permit, or replacing a Part 70 General permit with an individual Part 70 permit).
- ☐ Permit is for construction of a new facility.
- ☐ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an air emission permit.
- ☐ Project is subject to Prevention of Significant Deterioration (PSD) (40 CFR § 52.21)
  - Send a complete copy of the application to U.S. Environmental Protection Agency (EPA) Region V (see instructions).
  - Contact EPA Region V to begin the Endangered Species Assessment process (see instructions).
- ☐ Permit is required because of installation or modification of a Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) and/or a Part 60 NSPS Affected Facility at a Stationary Source with Potential-to-Emit below all permit thresholds (Minn. R. 7007.0500, subp. 2.C.(1)).

## Section 3C - Application for a registration, capped, or general permit

Is this application replacing an application that was returned as incomplete (not an application that was denied)?

☐ No ☐ Yes Enter the tracking number of the incomplete application being replaced: \_\_\_\_\_.

Check as many of the boxes below as apply. Continue with item 4 of the form.

| Choose one of the following:                                                                                                                                                                              | Quantity | Points | Total Points |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|
| <input type="checkbox"/> Application for a registration permit<br><input type="checkbox"/> Option A <input type="checkbox"/> Option B <input type="checkbox"/> Option C <input type="checkbox"/> Option D |          | x 2 =  |              |
| <input type="checkbox"/> Application for a capped permit<br><input type="checkbox"/> Option 1 <input type="checkbox"/> Option 2                                                                           |          | x 4 =  |              |
| <input type="checkbox"/> Application for a Part 70 general permit<br><input type="checkbox"/> Manufacturing General Permit <input type="checkbox"/> Low Emitting Facility General Permit                  |          | x 4 =  |              |
| <input type="checkbox"/> Application for a State general permit<br><input type="checkbox"/> Nonmetallic Mineral Processing General Permit                                                                 |          | x 3 =  |              |
| <input type="checkbox"/> Application for an administrative change to an existing registration, capped, or general permit (e.g., change of facility ownership)                                             |          | x 1 =  |              |

### Additional information (check all that apply):

- ☐ Permit will replace an existing permit of a different type (e.g., replacing a registration permit with a capped permit; replacing an option B registration permit with an option D registration permit; etc.)
- ☐ Permit is required for construction of a new facility
- ☐ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an air emission permit.
- ☐ Permit is required because of a modification or change making the facility ineligible for its existing air emission permit.

## Section 3D - Notifications

If your submittal also includes a permit application, then also complete Section 3A, 3B, 3C, or 3e as applicable. Check all applicable boxes below, then continue with item 4 of the form.

- ☐ A Notification of Accumulated Insignificant Activities (Minn. R. 7007.1250, subp. 4)
- ☐ A Notification of Installation of Pollution Control Equipment (Minn. R. 7007.1150, item C)
- ☐ A Notification of Replacement of a Unit (Minn. R. 7007.1150, item C)
- ☐ A Notification of Replacement of Controls with Listed Controls (Minn. R. 7007.1150, item C)
- ☐ A Notification of Changes That Contravene a Permit Term (Minn. R. 7007.1350)
- ☐ A Notification of Applicability of a New NSPS (applies to Capped Permits) (Minn. R. 7007.1146, subp. 2(G))
- ☐ A Notification of Applicability of a New NSPS (applies to Registration Permits) (Minn. R. 7007.1110, subp. 10)
- ☐ A Notification of Changes (not Modifications) Causing a New Permit to be Needed (applies to Registration Permits) (Minn. R. 7007.1110, subp. 11)
- ☐ A Notification of a Regulatory Change Causing a New Permit to be Needed (applies to Registration Permits) (Minn. R. 7007.1110, subp. 11a)
- ☐ A Notification From a Hot Mix Asphalt Plant Including a Request to Incorporate Ground Tear-off Shingles and/or Manufacturer Scrap Shingles in the Hot Mix Asphalt (applies to Registration Permits) Minn. R. 7011.0913, subp. 3)

## Section 3E - Replacement for an incomplete application where the project scope is unchanged

Enter the Tracking Number of the incomplete application being replaced: \_\_\_\_\_.

Check one option under "i" and one option under "ii". Calculate the points' difference in "iii". Check all that apply under "iv." Then continue with item 4 of the form.

| i. Choose one of the following describing this application:           | Quantity | Points | Total Points |
|-----------------------------------------------------------------------|----------|--------|--------------|
| <input type="checkbox"/> Application for an individual Part 70 permit |          | x 75 = |              |
| <input type="checkbox"/> Application for an individual State permit   |          | x 50 = |              |



|                                                                                                                                                                                                                                                                         |                 |               |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|---------------------|
| <input type="checkbox"/> Application for a major amendment to an individual State or Part 70 permit<br><input type="checkbox"/> Includes reconstruction or modification of a New Source Performance Standards (NSPS) Affected Facility not subject to New Source Review |                 | x 25 =        |                     |
| <input type="checkbox"/> Application for a moderate amendment to an individual State or Part 70 permit                                                                                                                                                                  |                 | x 15 =        |                     |
| <input type="checkbox"/> Application for a minor amendment to an individual State or Part 70 permit                                                                                                                                                                     |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for an administrative amendment to an individual State or Part 70 permit                                                                                                                                                           |                 | x 1 =         |                     |
| <input type="checkbox"/> Application for a registration permit<br><input type="checkbox"/> Option A <input type="checkbox"/> Option B <input type="checkbox"/> Option C <input type="checkbox"/> Option D                                                               |                 | x 2 =         |                     |
| <input type="checkbox"/> Application for a Capped Permit <input type="checkbox"/> Option 1 <input type="checkbox"/> Option 2                                                                                                                                            |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for a Part 70 general permit<br><input type="checkbox"/> Manufacturing general permit <input type="checkbox"/> Low emitting facility general permit                                                                                |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for a State general permit<br><input type="checkbox"/> Nonmetallic mineral processing general permit                                                                                                                               |                 | x 3 =         |                     |
| <input type="checkbox"/> Application for an administrative change to an existing registration, capped, or general permit (e.g., change of facility ownership)                                                                                                           |                 | x 1 =         |                     |
| <b>ii. Choose one of the following describing the incomplete application being replaced:</b>                                                                                                                                                                            | <b>Quantity</b> | <b>Points</b> | <b>Total Points</b> |
| <input type="checkbox"/> Application for an individual Part 70 permit                                                                                                                                                                                                   |                 | x 75 =        |                     |
| <input type="checkbox"/> Application for an individual State permit                                                                                                                                                                                                     |                 | x 50 =        |                     |
| <input type="checkbox"/> Application for a major amendment to an individual State or Part 70 permit                                                                                                                                                                     |                 | x 25 =        |                     |
| <input type="checkbox"/> Application for a moderate amendment to an individual State or Part 70 permit                                                                                                                                                                  |                 | x 15 =        |                     |
| <input type="checkbox"/> Application for a minor amendment to an individual State or Part 70 permit                                                                                                                                                                     |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for an administrative amendment to an individual State or Part 70 permit                                                                                                                                                           |                 | x 1 =         |                     |
| <input type="checkbox"/> Application for a registration permit<br><input type="checkbox"/> Option A <input type="checkbox"/> Option B <input type="checkbox"/> Option C <input type="checkbox"/> Option D                                                               |                 | x 2 =         |                     |
| <input type="checkbox"/> Application for a capped permit <input type="checkbox"/> Option 1 <input type="checkbox"/> Option 2                                                                                                                                            |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for a Part 70 general permit<br><input type="checkbox"/> Manufacturing general permit <input type="checkbox"/> Low emitting facility general permit                                                                                |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for a State general permit<br><input type="checkbox"/> Nonmetallic mineral processing general permit                                                                                                                               |                 | x 3 =         |                     |
| <input type="checkbox"/> Application for an administrative change to an existing registration, capped, or general permit (e.g., change of facility ownership)                                                                                                           |                 | x 1 =         |                     |
| <b>iii. (Points from part i: _____) – (Points from part ii: _____) = Total points for Section 3E. →</b><br><b>If the number is negative (e.g., the number from “ii” is larger than the number from “i”, enter “0”).</b>                                                 |                 |               |                     |

**iv. Additional information (check all that apply):**

- ☐ Submittal was preceded by pre-application work with the MPCA (for example: dispersion modeling or modeling protocol review, AERA review, environmental review). The tracking number associated with the preapplication work is: \_\_\_\_\_
- ☐ Permit will replace an existing permit of a different type (e.g., replacing a capped permit with an individual State permit, or replacing a Part 70 general permit with an individual Part 70 permit)
- ☐ Permit is for construction of a new facility.

- ☐ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an air emission permit.
- ☐ Project is subject to Prevention of Significant Deterioration (PSD) (40 CFR § 52.21)
- Send a complete copy of the application to U.S. Environmental Protection Agency (EPA) Region V (see instructions).
  - Contact EPA Region V to begin the Endangered Species Assessment and Historic Preservation Act processes (see instructions).
- ☐ Permit is required because of installation or modification of a Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) and/or a Part 60 NSPS Affected Facility at a Stationary Source with Potential-to-Emit below all permit thresholds (Minn. R. 7007.0500, subp. 2.C.(1)).

4) Total points ( "total points" from Section 3A, 3B, 3C, or 3E part iii)

0

5) Total application fee

0 x \$285 = \$ 0  
(total points from item 4) (fee amount)

The application fee amount is \$285 per point, payable to the MPCA. Send your payment ("fee amount") with your submittal. The fee is not refundable, per Minn. R. 7002.0016, subp. 1. There may be additional fees assessed during processing of your request, as required by Minn. R. ch. 7002.

#### 6a) Confidentiality statement:

- ☒ This application does not contain material claimed to be confidential under Minn. Stat. §§ 13.37 subd. 1(b) and 116.075. Skip item 6b, go to item 7.
- ☐ This application contains material which is claimed to be confidential under Minn. Stat. §§ 13.37 subd. 1(b) and 116.075. Complete Item 6b. Your submittal must include both Confidential and Public versions of your application.

**Registration permit applicants may not claim any portion of their application as confidential. If applying for a registration permit or an administrative change to a registration permit, you must check the first box above ("This application does not contain.....").**

- ☐ Confidential copy of application attached ☐ Public copy of application attached

#### 6b) Confidentiality certification

To certify data for the confidential use of the MPCA, a responsible official must read the following, certify to its truth by filling in the signature block on the following page, and provide the stated attachments.

- ☐ I certify that the enclosed permit application(s) and all attachments have been reviewed by me and do contain confidential material. I understand that only specific data can be considered confidential and not the entire application or permit. I certify that I have enclosed the following to comply with the proper procedure for confidential material:
- ☐ I have enclosed a statement identifying which data contained in my application I consider confidential, and I have explained why I believe the information qualifies for confidential (or non-public) treatment under Minnesota Statutes.
  - ☐ I have explained why the data for which I am seeking confidential treatment should not be considered "emissions data" which the MPCA is required to make available to the public under federal law.
  - ☐ I have enclosed an application containing all pertinent information to allow for completion and issuance of my permit. This document has been clearly marked "confidential".
  - ☐ I have enclosed a second copy of my application with the confidential data blacked out (not omitted or deleted entirely). It is evident from this copy that information was there, but that it is not for public review. This document has been clearly marked "public copy".

**Permittee responsible official:**

Mr./Ms. \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Co-Permittee responsible official (if applicable)**

Mr./Ms. \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## 7) Submittal certification

I certify under penalty of law that the enclosed documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I also certify, in accordance with Minn. R. 7007.0500, subp. 2 (K)(2) and subp. 2 (K)(3), that I have reviewed the procedures implemented by my facility to maintain compliance and that those procedures are, to the best of my knowledge and belief, reasonable to maintain compliance with all applicable requirements, including those that will become applicable during the term of the permit.

I also certify, in accordance with Minn. R. 7007.1450, subp. 4(D), that if this application requests the use of the minor or moderate permit amendment procedures, the proposed change is not part of a larger project which, taken as a whole, would not qualify for treatment as a minor or moderate permit amendment.

Choose one of the following:

- ☐ I certify that no construction is associated with the permit action sought by this permit application.
- ☒ I certify that my project includes construction, but construction has not yet been started except as allowed under Minn. R. 7007.1110, subp. 10 or Minn. R. 7007.1250, subp. 4, and will not begin until the permit is issued except as allowed under Minn. R. 7007.1110, subp. 12; Minn. R. 7007.1142, subp. 2; Minn. R. 7007.1150, item C; or Minn. R. 7007.1450, subp. 7.
- ☐ My project includes construction, and construction other than what is allowed under Minnesota Rules has been started

### Permittee responsible official:

Mr./Ms. Mr. John Primak

Title: Vice President Operations

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

### Co-Permittee responsible official (if applicable)

Mr./Ms. \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## 8) Package submittal

Applications, notifications, and/or requests that are submitted without authorized signature(s) (under submittal certification for all applications and under confidentiality certification if you are seeking confidential treatment of any information in the application); without required forms, and/or without the required application fee, will be returned. You must submit at least one SCP-01 that bears the original signature(s) (i.e., is not a photocopy of the signed signature page). Please make your check out to the Minnesota Pollution Control Agency. Send the complete application package and check to:

**Fiscal Services – 6<sup>th</sup> Floor  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, MN 55155-4194**

You may choose to submit your application as a "pdf" file on a compact disc (CD). If you choose this option, you must still include a paper copy of any form that requires a signature.



**Sanimax USA, LLC**  
**Facility PTE Summary (Page 1 of 2)**

|                                      |                   |              |                                    | Pollutant |            |            |                  |            |            |                   |            |            |                 |            |            |         |            |            |
|--------------------------------------|-------------------|--------------|------------------------------------|-----------|------------|------------|------------------|------------|------------|-------------------|------------|------------|-----------------|------------|------------|---------|------------|------------|
| Emission Unit                        | Control Equipment | Stack / Vent | Equipment Description              | PM        |            |            | PM <sub>10</sub> |            |            | PM <sub>2.5</sub> |            |            | SO <sub>2</sub> |            |            | NOx     |            |            |
|                                      |                   |              |                                    | (lb/hr)   | Unc. (tpy) | Lim. (tpy) | (lb/hr)          | Unc. (tpy) | Lim. (tpy) | (lb/hr)           | Unc. (tpy) | Lim. (tpy) | (lb/hr)         | Unc. (tpy) | Lim. (tpy) | (lb/hr) | Unc. (tpy) | Lim. (tpy) |
| Existing Emission Units              |                   |              |                                    |           |            |            |                  |            |            |                   |            |            |                 |            |            |         |            |            |
| EU001                                | --                | SV001        | Boiler No. 1                       | 6.32      | 27.69      | 27.69      | 5.51             | 24.12      | 24.12      | 3.76              | 16.49      | 16.49      | 80.07           | 350.71     | 350.71     | 18.70   | 81.91      | 81.91      |
| EU002                                | CE001             | SV002        | Ring/Blood Dryer                   | 1.47      | 59.83      | 6.45       | 1.30             | 53.80      | 5.70       | 0.78              | 32.14      | 3.43       | 2.54            | 11.11      | 11.11      | 0.71    | 3.13       | 3.13       |
| EU003                                | CE003             | SV003        | Protein Recovery Facility          | 1.06      | 46.27      | 4.63       | 1.02             | 44.55      | 4.45       | 0.97              | 42.39      | 4.24       | --              |            | --         | --      |            | --         |
| EU005                                | CE006 / CE014     | SV005        | Blood Pneumatic Conveying System   | 0.01      | 3.20       | 0.03       | 0.005            | 2.06       | 0.02       | 0.005             | 2.059      | 0.02       | --              |            | --         | --      |            | --         |
| EU006                                | --                | SV006        | Boiler No. 2                       | 0.41      | 1.81       | 1.81       | 0.29             | 1.26       | 1.26       | 0.19              | 0.85       | 0.85       | 8.92            | 39.05      | 39.05      | 2.51    | 11.00      | 11.00      |
| EU009                                | CE010             | SV009        | Protein Silo No. 1                 | 0.07      | 31.97      | 0.32       | 0.05             | 20.59      | 0.21       | 0.05              | 20.59      | 0.21       | --              |            | --         | --      |            | --         |
| EU010                                | CE011             | SV010        | Protein Silo No. 2                 | 0.07      | 31.97      | 0.32       | 0.05             | 20.59      | 0.21       | 0.05              | 20.59      | 0.21       | --              |            | --         | --      |            | --         |
| EU011                                | CE016             | SV012        | Continuous Milling System          | 0.34      | 14.67      | 1.47       | 0.28             | 12.47      | 1.25       | 0.10              | 4.40       | 0.44       | --              |            | --         | --      |            | --         |
| EU012                                | CE012             | SV012        | Continuous Cooker No. 1            | 1.00      | 43.80      | 4.38       | 0.90             | 39.20      | 3.92       | 0.51              | 22.34      | 2.23       | --              |            | --         | --      |            | --         |
| EU013                                | CE012             | SV012        | Continuous Cooker No. 2            | 1.00      | 43.80      | 4.38       | 0.90             | 39.20      | 3.92       | 0.51              | 22.34      | 2.23       | --              |            | --         | --      |            | --         |
| EU014                                | CE009             | SV014        | Feather Pneumatic Conveying System | 0.01      | 4.00       | 0.04       | 0.01             | 2.57       | 0.03       | 0.01              | 2.57       | 0.03       | --              |            | --         | --      |            | --         |
| EU020                                | CE025             | SV018        | PPF Cooking                        | 1.52      | 66.39      | 6.64       | 1.36             | 59.42      | 5.94       | 0.77              | 33.86      | 3.39       | --              |            | --         | --      |            | --         |
| EU021                                | CE025             | SV018        | PPF Pressing                       | 0.43      | 18.78      | 1.88       | 0.38             | 16.80      | 1.68       | 0.22              | 9.58       | 0.96       | --              |            | --         | --      |            | --         |
| EU022                                | CE025             | SV018        | PPF Milling                        | 0.17      | 7.23       | 0.72       | 0.14             | 6.15       | 0.61       | 0.05              | 2.17       | 0.22       | --              |            | --         | --      |            | --         |
| Existing PTE                         |                   |              |                                    | 13.9      |            | 60.8       | 12.2             |            | 53.3       | 8.0               |            | 34.9       | 91.5            |            | 240**      | 21.9    |            | 96.0       |
| Permitted PTE***                     |                   |              |                                    |           |            | 57.6       |                  |            | 50.2       |                   |            | 31.8       |                 |            | 240**      |         |            | 96.0       |
| Proposed/Revised Emission Units      |                   |              |                                    |           |            |            |                  |            |            |                   |            |            |                 |            |            |         |            |            |
| EU001                                | --                | SV001        | Boiler No. 1                       | 6.32      | 27.69      | 27.69      | 5.51             | 24.12      | 24.12      | 3.76              | 16.49      | 16.49      | 80.07           | 350.71     | 350.71     | 18.70   | 81.91      | 81.91      |
| EU002                                | CE001             | SV002        | Ring/Blood Dryer                   | 1.47      | 59.83      | 6.45       | 1.30             | 53.80      | 5.70       | 0.78              | 32.14      | 3.43       | 0.25            | 1.11       | 1.11       | 0.71    | 3.13       | 3.13       |
| EU006                                | --                | SV006        | Boiler No. 2                       | 0.41      | 1.81       | 1.81       | 0.29             | 1.26       | 1.26       | 0.19              | 0.85       | 0.85       | 2.20            | 9.63       | 9.63       | 3.14    | 13.75      | 13.75      |
| EU023                                | CE026             | SV020        | Boiler No. 3                       | 3.85      | 16.86      | 16.86      | 2.38             | 10.42      | 10.42      | 1.28              | 5.60       | 5.60       | 12.25           | 53.66      | 53.66      | 10.04   | 76.65      | 43.99      |
| Proposed PTE                         |                   |              |                                    | 11.4      |            | 49.9       | 9.0              |            | 39.6       | 5.5               |            | 24.0       | 14.7            |            | 64.4       | 13.9    |            | 60.9       |
| Change in PTE (Permitted - Proposed) |                   |              |                                    |           |            | -7.7       |                  |            | -10.6      |                   |            | -7.8       |                 |            | -175.6     |         |            | -35.1      |
| Change in PTE (Existing - Proposed)  |                   |              |                                    | -2.5      |            | -10.8      | -3.1             |            | -13.7      | -2.5              |            | -10.9      | -76.8           |            | -175.6     | -8.0    |            | -35.2      |

\* Largest emitted HAP is hexane.

\*\* Facility is currently subject to a 240 tpy SO<sub>2</sub> limit.

\*\*\* PTE from the existing facility, as presented in the current Total Facility Operating Permit and January 2013 Permit Renewal Application.

Unc. = Uncontrolled emissions; Lim. = Limited (controlled) emissions

**Sanimax USA, LLC**  
**Facility PTE Summary (Page 2 of 2)**

|                                      |                   |              |                                    | Pollutant |            |            |         |            |            |                   |            |            |             |            |            |          |            |            |
|--------------------------------------|-------------------|--------------|------------------------------------|-----------|------------|------------|---------|------------|------------|-------------------|------------|------------|-------------|------------|------------|----------|------------|------------|
| Emission Unit                        | Control Equipment | Stack / Vent | Equipment Description              | CO        |            |            | VOC     |            |            | CO <sub>2</sub> e |            |            | Single HAP* |            |            | All HAPs |            |            |
|                                      |                   |              |                                    | (lb/hr)   | Unc. (tpy) | Lim. (tpy) | (lb/hr) | Unc. (tpy) | Lim. (tpy) | (lb/hr)           | Unc. (tpy) | Lim. (tpy) | (lb/hr)     | Unc. (tpy) | Lim. (tpy) | (lb/hr)  | Unc. (tpy) | Lim. (tpy) |
| Existing Emission Units              |                   |              |                                    |           |            |            |         |            |            |                   |            |            |             |            |            |          |            |            |
| EU001                                | --                | SV001        | Boiler No. 1                       | 4.20      | 18.40      | 18.40      | 0.28    | 1.20       | 1.20       | 8,358             | 36,609     | 36,609     | 0.09        | 0.39       | 0.39       | 0.09     | 0.41       | 0.41       |
| EU002                                | CE001             | SV002        | Ring/Blood Dryer                   | 0.41      | 1.80       | 1.80       | 0.12    | 0.51       | 0.51       | 800               | 3,504      | 3,504      | 0.01        | 0.04       | 0.04       | 0.01     | 0.04       | 0.04       |
| EU003                                | CE003             | SV003        | Protein Recovery Facility          | --        |            | --         | 0.17    | 0.74       | 0.74       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU005                                | CE006 / CE014     | SV005        | Blood Pneumatic Conveying System   | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU006                                | --                | SV006        | Boiler No. 2                       | 1.45      | 6.34       | 6.34       | 0.09    | 0.42       | 0.42       | 2,812             | 12,318     | 12,318     | 0.03        | 0.14       | 0.14       | 0.03     | 0.14       | 0.14       |
| EU009                                | CE010             | SV009        | Protein Silo No. 1                 | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU010                                | CE011             | SV010        | Protein Silo No. 2                 | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU011                                | CE016             | SV012        | Continuous Milling System          | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU012                                | CE012             | SV012        | Continuous Cooker No. 1            | --        |            | --         | 1.06    | 4.66       | 4.66       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU013                                | CE012             | SV012        | Continuous Cooker No. 2            | --        |            | --         | 1.06    | 4.66       | 4.66       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU014                                | CE009             | SV014        | Feather Pneumatic Conveying System | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU020                                | CE025             | SV018        | PPF Cooking                        | --        |            | --         | 1.61    | 7.05       | 7.05       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU021                                | CE025             | SV018        | PPF Pressing                       | --        |            | --         | 0.46    | 1.99       | 1.99       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU022                                | CE025             | SV018        | PPF Milling                        | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| Existing PTE                         |                   |              |                                    | 6.1       |            | 26.5       | 4.9     |            | 21.2       | 11,971            |            | 52,431     | 0.13        |            | 0.57       | 0.14     |            | 0.60       |
|                                      |                   |              |                                    |           |            | 26.5       |         |            | 13.1       |                   |            | 55,220     |             |            | 0.57       |          |            | 0.60       |
| Proposed/Revised Emission Units      |                   |              |                                    |           |            |            |         |            |            |                   |            |            |             |            |            |          |            |            |
| EU001                                | --                | SV001        | Boiler No. 1                       | 4.20      | 18.40      | 18.40      | 0.28    | 1.20       | 1.20       | 8,358             | 36,609     | 36,609     | 0.09        | 0.39       | 0.39       | 0.09     | 0.41       | 0.41       |
| EU002                                | CE001             | SV002        | Ring/Blood Dryer                   | 0.41      | 1.80       | 1.80       | 0.24    | 1.07       | 1.07       | 799               | 3,501      | 3,501      | 0.01        | 0.04       | 0.04       | 0.01     | 0.04       | 0.04       |
| EU006                                | --                | SV006        | Boiler No. 2                       | 1.45      | 6.34       | 6.34       | 0.15    | 0.67       | 0.67       | 3,179             | 13,922     | 13,922     | 0.03        | 0.14       | 0.14       | 0.03     | 0.14       | 0.14       |
| EU023                                | CE026             | SV020        | Boiler No. 3                       | 8.07      | 35.35      | 35.35      | 0.86    | 3.75       | 3.75       | 17,719            | 77,611     | 77,611     | 0.17        | 0.76       | 0.76       | 0.18     | 0.80       | 0.80       |
| Proposed PTE                         |                   |              |                                    | 9.9       |            | 43.5       | 5.6     |            | 24.6       | 21,697            |            | 95,034     | 0.21        |            | 0.93       | 0.22     |            | 0.98       |
| Change in PTE (Permitted - Proposed) |                   |              |                                    |           |            | 17.0       |         |            | 11.5       |                   |            | 39,814     |             |            | 0.36       |          |            | 0.38       |
| Change in PTE (Existing - Proposed)  |                   |              |                                    | 3.9       |            | 17.0       | 0.8     |            | 3.4        | 9,727             |            | 42,603     | 0.1         |            | 0.4        | 0.1      |            | 0.4        |

\* Largest emitted HAP is hexane.

\*\* Facility is currently subject to a 240 tpy SO<sub>2</sub> limit.

\*\*\* PTE from the existing facility, as presented in the current Total Facility Operating Permit and January 2013 Permit Renewal Application.

Unc. = Uncontrolled emissions; Lim. = Limited (controlled) emissions

**Sanimax USA, LLC**  
**Facility PTE Summary - Proposed Operating Scenario with Boiler 1 (Page 1 of 2)**

| Emission Unit       | Control Equipment | Stack / Vent | Equipment Description              | Pollutant  |            |             |                  |            |             |                   |            |             |                 |            |             |            |            |             |
|---------------------|-------------------|--------------|------------------------------------|------------|------------|-------------|------------------|------------|-------------|-------------------|------------|-------------|-----------------|------------|-------------|------------|------------|-------------|
|                     |                   |              |                                    | PM         |            |             | PM <sub>10</sub> |            |             | PM <sub>2.5</sub> |            |             | SO <sub>2</sub> |            |             | NOx        |            |             |
|                     |                   |              |                                    | (lb/hr)    | Unc. (tpy) | Lim. (tpy)  | (lb/hr)          | Unc. (tpy) | Lim. (tpy)  | (lb/hr)           | Unc. (tpy) | Lim. (tpy)  | (lb/hr)         | Unc. (tpy) | Lim. (tpy)  | (lb/hr)    | Unc. (tpy) | Lim. (tpy)  |
| EU001               | --                | SV001        | Boiler No. 1                       | 1.20       | 5.27       | 5.27        | 0.84             | 3.67       | 3.67        | 0.56              | 2.46       | 2.46        | 6.38            | 27.92      | 27.92       | 5.23       | 22.90      | 22.90       |
| EU002               | CE001             | SV002        | Ring/Blood Dryer                   | 1.47       | 59.83      | 6.45        | 1.30             | 53.80      | 5.70        | 0.78              | 32.14      | 3.43        | 0.25            | 1.11       | 1.11        | 0.71       | 3.13       | 3.13        |
| EU003               | CE003             | SV003        | Protein Recovery Facility          | 1.06       | 46.27      | 4.63        | 1.02             | 44.55      | 4.45        | 0.97              | 42.39      | 4.24        | --              |            | --          | --         |            | --          |
| EU005               | CE006 / CE014     | SV005        | Blood Pneumatic Conveying System   | 0.01       | 3.20       | 0.03        | 0.005            | 2.06       | 0.02        | 0.005             | 2.059      | 0.02        | --              |            | --          | --         |            | --          |
| EU006               | --                | SV006        | Boiler No. 2                       | 0.41       | 1.81       | 1.81        | 0.29             | 1.26       | 1.26        | 0.19              | 0.85       | 0.85        | 2.20            | 9.63       | 9.63        | 3.14       | 13.75      | 13.75       |
| EU009               | CE010             | SV009        | Protein Silo No. 1                 | 0.07       | 31.97      | 0.32        | 0.05             | 20.59      | 0.21        | 0.05              | 20.59      | 0.21        | --              |            | --          | --         |            | --          |
| EU010               | CE011             | SV010        | Protein Silo No. 2                 | 0.07       | 31.97      | 0.32        | 0.05             | 20.59      | 0.21        | 0.05              | 20.59      | 0.21        | --              |            | --          | --         |            | --          |
| EU011               | CE016             | SV012        | Continuous Milling System          | 0.34       | 14.67      | 1.47        | 0.28             | 12.47      | 1.25        | 0.10              | 4.40       | 0.44        | --              |            | --          | --         |            | --          |
| EU012               | CE012             | SV012        | Continuous Cooker No. 1            | 1.00       | 43.80      | 4.38        | 0.90             | 39.20      | 3.92        | 0.51              | 22.34      | 2.23        | --              |            | --          | --         |            | --          |
| EU013               | CE012             | SV012        | Continuous Cooker No. 2            | 1.00       | 43.80      | 4.38        | 0.90             | 39.20      | 3.92        | 0.51              | 22.34      | 2.23        | --              |            | --          | --         |            | --          |
| EU014               | CE009             | SV014        | Feather Pneumatic Conveying System | 0.01       | 4.00       | 0.04        | 0.01             | 2.57       | 0.03        | 0.01              | 2.57       | 0.03        | --              |            | --          | --         |            | --          |
| EU020               | CE025             | SV018        | PPF Cooking                        | 1.52       | 66.39      | 6.64        | 1.36             | 59.42      | 5.94        | 0.77              | 33.86      | 3.39        | --              |            | --          | --         |            | --          |
| EU021               | CE025             | SV018        | PPF Pressing                       | 0.43       | 18.78      | 1.88        | 0.38             | 16.80      | 1.68        | 0.22              | 9.58       | 0.96        | --              |            | --          | --         |            | --          |
| EU022               | CE025             | SV018        | PPF Milling                        | 0.17       | 7.23       | 0.72        | 0.14             | 6.15       | 0.61        | 0.05              | 2.17       | 0.22        | --              |            | --          | --         |            | --          |
| <b>Proposed PTE</b> |                   |              |                                    | <b>8.8</b> |            | <b>38.3</b> | <b>7.5</b>       |            | <b>32.9</b> | <b>4.8</b>        |            | <b>20.9</b> | <b>8.8</b>      |            | <b>38.7</b> | <b>9.1</b> |            | <b>39.8</b> |

\* Largest emitted HAP is hexane.

Unc. = Uncontrolled emissions; Lim. = Limited (controlled) emissions

**Sanimax USA, LLC**  
**Facility PTE Summary - Proposed Operating Scenario with Boiler 1 (Page 2 of 2)**

|               |                   |              |                                    | Pollutant |            |            |         |            |            |                   |            |            |             |            |            |          |            |            |
|---------------|-------------------|--------------|------------------------------------|-----------|------------|------------|---------|------------|------------|-------------------|------------|------------|-------------|------------|------------|----------|------------|------------|
| Emission Unit | Control Equipment | Stack / Vent | Equipment Description              | CO        |            |            | VOC     |            |            | CO <sub>2</sub> e |            |            | Single HAP* |            |            | All HAPs |            |            |
|               |                   |              |                                    | (lb/hr)   | Unc. (tpy) | Lim. (tpy) | (lb/hr) | Unc. (tpy) | Lim. (tpy) | (lb/hr)           | Unc. (tpy) | Lim. (tpy) | (lb/hr)     | Unc. (tpy) | Lim. (tpy) | (lb/hr)  | Unc. (tpy) | Lim. (tpy) |
| EU001         | --                | SV001        | Boiler No. 1                       | 4.20      | 18.40      | 18.40      | 0.45    | 1.95       | 1.95       | 9,221             | 40,389     | 40,389     | 0.09        | 0.39       | 0.39       | 0.09     | 0.41       | 0.41       |
| EU002         | CE001             | SV002        | Ring/Blood Dryer                   | 0.41      | 1.80       | 1.80       | 0.24    | 1.07       | 1.07       | 799               | 3,501      | 3,501      | 0.01        | 0.04       | 0.04       | 0.01     | 0.04       | 0.04       |
| EU003         | CE003             | SV003        | Protein Recovery Facility          | --        |            | --         | 0.17    | 0.74       | 0.74       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU005         | CE006 / CE014     | SV005        | Blood Pneumatic Conveying System   | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU006         | --                | SV006        | Boiler No. 2                       | 1.45      | 6.34       | 6.34       | 0.15    | 0.67       | 0.67       | 3,179             | 13,922     | 13,922     | 0.03        | 0.14       | 0.14       | 0.03     | 0.14       | 0.14       |
| EU009         | CE010             | SV009        | Protein Silo No. 1                 | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU010         | CE011             | SV010        | Protein Silo No. 2                 | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU011         | CE016             | SV012        | Continuous Milling System          | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU012         | CE012             | SV012        | Continuous Cooker No. 1            | --        |            | --         | 1.06    | 4.66       | 4.66       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU013         | CE012             | SV012        | Continuous Cooker No. 2            | --        |            | --         | 1.06    | 4.66       | 4.66       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU014         | CE009             | SV014        | Feather Pneumatic Conveying System | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU020         | CE025             | SV018        | PPF Cooking                        | --        |            | --         | 1.61    | 7.05       | 7.05       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU021         | CE025             | SV018        | PPF Pressing                       | --        |            | --         | 0.46    | 1.99       | 1.99       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU022         | CE025             | SV018        | PPF Milling                        | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| Proposed PTE  |                   |              |                                    | 6.1       |            | 26.5       | 5.2     |            | 22.8       | 13,199            |            | 57,812     | 0.13        |            | 0.57       | 0.14     |            | 0.60       |

\* Largest emitted HAP is hexane.

Unc. = Uncontrolled emissions; Lim. = Limited (controlled) emissions



**Sanimax USA, LLC**  
**Facility PTE Summary - Proposed Operating Scenario with Boiler 3 (Page 1 of 2)**

| Emission Unit       | Control Equipment | Stack / Vent | Equipment Description              | Pollutant   |            |             |                  |            |             |                   |            |             |                 |            |             |             |            |             |
|---------------------|-------------------|--------------|------------------------------------|-------------|------------|-------------|------------------|------------|-------------|-------------------|------------|-------------|-----------------|------------|-------------|-------------|------------|-------------|
|                     |                   |              |                                    | PM          |            |             | PM <sub>10</sub> |            |             | PM <sub>2.5</sub> |            |             | SO <sub>2</sub> |            |             | NOx         |            |             |
|                     |                   |              |                                    | (lb/hr)     | Unc. (tpy) | Lim. (tpy)  | (lb/hr)          | Unc. (tpy) | Lim. (tpy)  | (lb/hr)           | Unc. (tpy) | Lim. (tpy)  | (lb/hr)         | Unc. (tpy) | Lim. (tpy)  | (lb/hr)     | Unc. (tpy) | Lim. (tpy)  |
| EU002               | CE001             | SV002        | Ring/Blood Dryer                   | 1.47        | 59.83      | 6.45        | 1.30             | 53.80      | 5.70        | 0.78              | 32.14      | 3.43        | 0.25            | 1.11       | 1.11        | 0.71        | 3.13       | 3.13        |
| EU003               | CE003             | SV003        | Protein Recovery Facility          | 1.06        | 46.27      | 4.63        | 1.02             | 44.55      | 4.45        | 0.97              | 42.39      | 4.24        | --              |            | --          | --          |            | --          |
| EU005               | CE006 / CE014     | SV005        | Blood Pneumatic Conveying System   | 0.01        | 3.20       | 0.03        | 0.005            | 2.06       | 0.02        | 0.005             | 2.059      | 0.02        | --              |            | --          | --          |            | --          |
| EU006               | --                | SV006        | Boiler No. 2                       | 0.41        | 1.81       | 1.81        | 0.29             | 1.26       | 1.26        | 0.19              | 0.85       | 0.85        | 2.20            | 9.63       | 9.63        | 3.14        | 13.75      | 13.75       |
| EU009               | CE010             | SV009        | Protein Silo No. 1                 | 0.07        | 31.97      | 0.32        | 0.05             | 20.59      | 0.21        | 0.05              | 20.59      | 0.21        | --              |            | --          | --          |            | --          |
| EU010               | CE011             | SV010        | Protein Silo No. 2                 | 0.07        | 31.97      | 0.32        | 0.05             | 20.59      | 0.21        | 0.05              | 20.59      | 0.21        | --              |            | --          | --          |            | --          |
| EU011               | CE016             | SV012        | Continuous Milling System          | 0.34        | 14.67      | 1.47        | 0.28             | 12.47      | 1.25        | 0.10              | 4.40       | 0.44        | --              |            | --          | --          |            | --          |
| EU012               | CE012             | SV012        | Continuous Cooker No. 1            | 1.00        | 43.80      | 4.38        | 0.90             | 39.20      | 3.92        | 0.51              | 22.34      | 2.23        | --              |            | --          | --          |            | --          |
| EU013               | CE012             | SV012        | Continuous Cooker No. 2            | 1.00        | 43.80      | 4.38        | 0.90             | 39.20      | 3.92        | 0.51              | 22.34      | 2.23        | --              |            | --          | --          |            | --          |
| EU014               | CE009             | SV014        | Feather Pneumatic Conveying System | 0.01        | 4.00       | 0.04        | 0.01             | 2.57       | 0.03        | 0.01              | 2.57       | 0.03        | --              |            | --          | --          |            | --          |
| EU020               | CE025             | SV018        | PPF Cooking                        | 1.52        | 66.39      | 6.64        | 1.36             | 59.42      | 5.94        | 0.77              | 33.86      | 3.39        | --              |            | --          | --          |            | --          |
| EU021               | CE025             | SV018        | PPF Pressing                       | 0.43        | 18.78      | 1.88        | 0.38             | 16.80      | 1.68        | 0.22              | 9.58       | 0.96        | --              |            | --          | --          |            | --          |
| EU022               | CE025             | SV018        | PPF Milling                        | 0.17        | 7.23       | 0.72        | 0.14             | 6.15       | 0.61        | 0.05              | 2.17       | 0.22        | --              |            | --          | --          |            | --          |
| EU023               | CE026             | SV020        | Boiler No. 3                       | 3.85        | 16.86      | 16.86       | 2.38             | 10.42      | 10.42       | 1.28              | 5.60       | 5.60        | 12.25           | 53.66      | 53.66       | 10.04       | 76.65      | 43.99       |
| <b>Proposed PTE</b> |                   |              |                                    | <b>11.4</b> |            | <b>49.9</b> | <b>9.0</b>       |            | <b>39.6</b> | <b>5.5</b>        |            | <b>24.0</b> | <b>14.7</b>     |            | <b>64.4</b> | <b>13.9</b> |            | <b>60.9</b> |

\* Largest emitted HAP is hexane.

Unc. = Uncontrolled emissions; Lim. = Limited (controlled) emissions

**Sanimax USA, LLC**  
**Facility PTE Summary - Proposed Operating Scenario with Boiler 3 (Page 2 of 2)**

|               |                   |              |                                    | Pollutant |            |            |         |            |            |                   |            |            |             |            |            |          |            |            |
|---------------|-------------------|--------------|------------------------------------|-----------|------------|------------|---------|------------|------------|-------------------|------------|------------|-------------|------------|------------|----------|------------|------------|
| Emission Unit | Control Equipment | Stack / Vent | Equipment Description              | CO        |            |            | VOC     |            |            | CO <sub>2</sub> e |            |            | Single HAP* |            |            | All HAPs |            |            |
|               |                   |              |                                    | (lb/hr)   | Unc. (tpy) | Lim. (tpy) | (lb/hr) | Unc. (tpy) | Lim. (tpy) | (lb/hr)           | Unc. (tpy) | Lim. (tpy) | (lb/hr)     | Unc. (tpy) | Lim. (tpy) | (lb/hr)  | Unc. (tpy) | Lim. (tpy) |
| EU002         | CE001             | SV002        | Ring/Blood Dryer                   | 0.41      | 1.80       | 1.80       | 0.24    | 1.07       | 1.07       | 799               | 3,501      | 3,501      | 0.01        | 0.04       | 0.04       | 0.01     | 0.04       | 0.04       |
| EU003         | CE003             | SV003        | Protein Recovery Facility          | --        |            | --         | 0.17    | 0.74       | 0.74       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU005         | CE006 / CE014     | SV005        | Blood Pneumatic Conveying System   | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         |          |            | --         |
| EU006         | --                | SV006        | Boiler No. 2                       | 1.45      | 6.34       | 6.34       | 0.15    | 0.67       | 0.67       | 3,179             | 13,922     | 13,922     | 0.03        | 0.14       | 0.14       | 0.03     | 0.14       | 0.14       |
| EU009         | CE010             | SV009        | Protein Silo No. 1                 | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU010         | CE011             | SV010        | Protein Silo No. 2                 | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU011         | CE016             | SV012        | Continuous Milling System          | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU012         | CE012             | SV012        | Continuous Cooker No. 1            | --        |            | --         | 1.06    | 4.66       | 4.66       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU013         | CE012             | SV012        | Continuous Cooker No. 2            | --        |            | --         | 1.06    | 4.66       | 4.66       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU014         | CE009             | SV014        | Feather Pneumatic Conveying System | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU020         | CE025             | SV018        | PPF Cooking                        | --        |            | --         | 1.61    | 7.05       | 7.05       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU021         | CE025             | SV018        | PPF Pressing                       | --        |            | --         | 0.46    | 1.99       | 1.99       | --                |            | --         | --          |            | --         | --       |            | --         |
| EU022         | CE025             | SV018        | PPF Milling                        | --        |            | --         | --      |            | --         | --                |            | --         | --          |            | --         | --       |            | --         |
| EU023         | CE026             | SV020        | Boiler No. 3                       | 8.07      | 35.35      | 35.35      | 0.86    | 3.75       | 3.75       | 17,719            | 77,611     | 77,611     | 0.17        | 0.76       | 0.76       | 0.18     | 0.80       | 0.80       |
| Proposed PTE  |                   |              |                                    | 9.9       |            | 43.5       | 5.6     |            | 24.6       | 21,697            |            | 95,034     | 0.21        |            | 0.93       | 0.22     |            | 0.98       |

\* Largest emitted HAP is hexane.

Unc. = Uncontrolled emissions; Lim. = Limited (controlled) emissions

| Sanimax                                                                                                                                                                                                                                                         |                                |                                                |                                               |                                                |                                               |                                       |                                           |                                                |                                        |                                         |                                    |                                    |                               |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------|-----------------------------------------------|------------------------------------------------|-----------------------------------------------|---------------------------------------|-------------------------------------------|------------------------------------------------|----------------------------------------|-----------------------------------------|------------------------------------|------------------------------------|-------------------------------|--|--|--|
| Blood/Ring Dryer - EU002 (SV002)                                                                                                                                                                                                                                |                                |                                                |                                               |                                                |                                               |                                       |                                           |                                                |                                        |                                         |                                    |                                    |                               |  |  |  |
| Combustion Emissions Calculations (does not include process emissions)                                                                                                                                                                                          |                                |                                                |                                               |                                                |                                               |                                       |                                           |                                                |                                        |                                         |                                    |                                    |                               |  |  |  |
| All Emission Factors from AP-42, unless otherwise noted.                                                                                                                                                                                                        |                                |                                                |                                               |                                                |                                               |                                       |                                           |                                                |                                        |                                         |                                    |                                    |                               |  |  |  |
| Red text indicates data that has changed.                                                                                                                                                                                                                       |                                |                                                |                                               |                                                |                                               |                                       |                                           |                                                |                                        |                                         |                                    |                                    |                               |  |  |  |
| Capacity:                                                                                                                                                                                                                                                       | 5                              | MMBtu/hr                                       |                                               | Limited Fuel Oil Use:                          | 100%                                          |                                       |                                           |                                                |                                        |                                         |                                    |                                    |                               |  |  |  |
| #2 Fuel Oil:                                                                                                                                                                                                                                                    | 0.035713                       | 1000 gal/hr                                    |                                               | #2 Fuel Oil Heating Value:                     | 0.140005                                      | MMBtu/gal                             |                                           | S (No. 2):                                     | 0.05                                   | %                                       |                                    |                                    |                               |  |  |  |
| Natural Gas:                                                                                                                                                                                                                                                    | 0.004902                       | MMcft/hr                                       |                                               | Natural Gas Heating Value:                     | 1020                                          | Btu/cf                                |                                           |                                                |                                        |                                         |                                    |                                    |                               |  |  |  |
| Propane:                                                                                                                                                                                                                                                        | 0.054645                       | 1000 gal/hr                                    |                                               | Propane Heating Value:                         | 0.0915                                        | MMBtu/gal                             |                                           | S (propane):                                   | 15                                     | gr/100 scf                              |                                    |                                    |                               |  |  |  |
| Item                                                                                                                                                                                                                                                            | Pollutant                      | Natural Gas<br>Emission<br>Factor<br>(lb/MMcf) | #2 Oil<br>Emission<br>Factor<br>(lb/1000 gal) | Propane<br>Emission<br>Factor<br>(lb/1000 gal) | Natural Gas<br>Hourly<br>Potential<br>(lb/hr) | #2 Oil Hourly<br>Potential<br>(lb/hr) | Propane<br>Hourly<br>Potential<br>(lb/hr) | Natural<br>Gas<br>Annual<br>Potential<br>(tpy) | #2 Oil<br>Annual<br>Potential<br>(tpy) | Propane<br>Annual<br>Potential<br>(tpy) | Worst Case<br>Emissions<br>(lb/hr) | Unrestricted<br>Potential<br>(tpy) | Limited<br>Potential<br>(tpy) |  |  |  |
| EU002<br>Dryer<br>Fuels:<br>Desulfate (#2)<br>Oil, Natural<br>Gas,<br>Propane                                                                                                                                                                                   | Acenaphthene                   | 1.80E-06                                       | 2.11E-05                                      | 1.61E-07                                       | 8.82E-09                                      | 7.54E-07                              | 8.82E-09                                  | 3.86E-08                                       | 3.30E-06                               | 3.86E-08                                | 7.54E-07                           | 3.30E-06                           | 3.30E-06                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Acenaphthylene                 | 1.80E-06                                       | 2.53E-07                                      | 1.61E-07                                       | 8.82E-09                                      | 9.04E-09                              | 8.82E-09                                  | 3.86E-08                                       | 3.96E-08                               | 3.86E-08                                | 9.04E-09                           | 3.96E-08                           | 3.96E-08                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Anthracene                     | 2.40E-06                                       | 1.22E-06                                      | 2.15E-07                                       | 1.18E-08                                      | 4.36E-08                              | 1.18E-08                                  | 5.15E-08                                       | 1.91E-07                               | 5.15E-08                                | 4.36E-08                           | 1.91E-07                           | 1.91E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Benz(a)anthracene              | 1.80E-06                                       | 4.01E-06                                      | 1.61E-07                                       | 8.82E-09                                      | 1.43E-07                              | 8.82E-09                                  | 3.86E-08                                       | 6.27E-07                               | 3.86E-08                                | 1.43E-07                           | 6.27E-07                           | 6.27E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Benzene                        | 2.10E-03                                       | 2.14E-04                                      | 1.88E-04                                       | 1.03E-05                                      | 7.64E-06                              | 1.03E-05                                  | 4.51E-05                                       | 3.35E-05                               | 4.51E-05                                | 1.03E-05                           | 4.51E-05                           | 4.51E-05                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Benzo(a)pyrene                 | 1.20E-06                                       |                                               | 1.08E-07                                       | 5.88E-09                                      |                                       | 5.88E-09                                  | 2.58E-08                                       |                                        | 2.58E-08                                | 5.88E-09                           | 2.58E-08                           | 2.58E-08                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Benzo(b)fluoranthene           | 1.80E-06                                       | 1.48E-06                                      | 1.61E-07                                       | 8.82E-09                                      | 5.29E-08                              | 8.82E-09                                  | 3.86E-08                                       | 2.32E-07                               | 3.86E-08                                | 5.29E-08                           | 2.32E-07                           | 2.32E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Benzo(g,h,i)perylene           | 1.20E-06                                       | 2.26E-06                                      | 1.08E-07                                       | 5.88E-09                                      | 8.07E-08                              | 5.88E-09                                  | 2.58E-08                                       | 3.54E-07                               | 2.58E-08                                | 8.07E-08                           | 3.54E-07                           | 3.54E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Benzo(k)fluoranthene           | 1.80E-06                                       | 1.48E-06                                      | 1.61E-07                                       | 8.82E-09                                      | 5.29E-08                              | 8.82E-09                                  | 3.86E-08                                       | 2.32E-07                               | 3.86E-08                                | 5.29E-08                           | 2.32E-07                           | 2.32E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Chrysene                       | 1.80E-06                                       | 2.38E-06                                      | 1.61E-07                                       | 8.82E-09                                      | 8.50E-08                              | 8.82E-09                                  | 3.86E-08                                       | 3.72E-07                               | 3.86E-08                                | 8.50E-08                           | 3.72E-07                           | 3.72E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Dibenzo(a,h)anthracene         | 1.20E-03                                       | 1.67E-06                                      | 1.08E-04                                       | 5.88E-06                                      | 5.96E-08                              | 5.88E-06                                  | 2.58E-05                                       | 2.61E-07                               | 2.58E-05                                | 5.88E-06                           | 2.58E-05                           | 2.58E-05                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Dichlorobenzene                | 1.20E-03                                       |                                               | 1.08E-04                                       | 5.88E-06                                      |                                       | 5.88E-06                                  | 2.58E-05                                       |                                        | 2.58E-05                                | 5.88E-06                           | 2.58E-05                           | 2.58E-05                      |  |  |  |
|                                                                                                                                                                                                                                                                 | 7,12-Dimethylbenz(a)anthracene | 1.60E-05                                       |                                               | 1.44E-06                                       | 7.84E-08                                      |                                       | 7.84E-08                                  | 3.44E-07                                       |                                        | 3.44E-07                                | 7.84E-08                           | 3.44E-07                           | 3.44E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Ethylbenzene                   |                                                | 6.36E-05                                      |                                                |                                               | 2.27E-06                              |                                           |                                                | 9.95E-06                               |                                         | 2.27E-06                           | 9.95E-06                           | 9.95E-06                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Fluoranthene                   | 3.00E-06                                       | 4.84E-06                                      | 2.69E-07                                       | 1.47E-08                                      | 1.73E-07                              | 1.47E-08                                  | 6.44E-08                                       | 7.57E-07                               | 6.44E-08                                | 1.73E-07                           | 7.57E-07                           | 7.57E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Fluorene                       | 2.80E-06                                       | 4.47E-06                                      | 2.51E-07                                       | 1.37E-08                                      | 1.60E-07                              | 1.37E-08                                  | 6.01E-08                                       | 6.99E-07                               | 6.01E-08                                | 1.60E-07                           | 6.99E-07                           | 6.99E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Formaldehyde                   | 7.50E-02                                       | 3.30E-02                                      | 6.73E-03                                       | 3.68E-04                                      | 1.18E-03                              | 3.68E-04                                  | 1.61E-03                                       | 5.16E-03                               | 1.61E-03                                | 1.18E-03                           | 5.16E-03                           | 5.16E-03                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Hexane                         | 1.80E+00                                       |                                               | 1.61E-01                                       | 8.82E-03                                      |                                       | 8.82E-03                                  | 3.86E-02                                       |                                        | 3.86E-02                                | 8.82E-03                           | 3.86E-02                           | 3.86E-02                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Indendo(1,2,3-cd)pyrene        | 1.80E-06                                       | 2.14E-06                                      | 1.61E-07                                       | 8.82E-09                                      | 7.64E-08                              | 8.82E-09                                  | 3.86E-08                                       | 3.35E-07                               | 3.86E-08                                | 7.64E-08                           | 3.35E-07                           | 3.35E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | 2-Methylnaphthalene            | 2.40E-05                                       |                                               | 2.15E-06                                       | 1.18E-07                                      |                                       | 1.18E-07                                  | 5.15E-07                                       |                                        | 5.15E-07                                | 1.18E-07                           | 5.15E-07                           | 5.15E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | 3-Methylchloranthrene          | 1.80E-06                                       |                                               | 1.61E-07                                       | 8.82E-09                                      |                                       | 8.82E-09                                  | 3.86E-08                                       |                                        | 3.86E-08                                | 8.82E-09                           | 3.86E-08                           | 3.86E-08                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Naphthalene                    | 6.10E-04                                       | 1.13E-03                                      | 5.47E-05                                       | 2.99E-06                                      | 4.04E-05                              | 2.99E-06                                  | 1.31E-05                                       | 1.77E-04                               | 1.31E-05                                | 4.04E-05                           | 1.77E-04                           | 1.77E-04                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Phenanthrene                   | 1.70E-05                                       | 1.05E-05                                      | 1.53E-06                                       | 8.33E-08                                      | 3.75E-07                              | 8.33E-08                                  | 3.65E-07                                       | 1.64E-06                               | 3.65E-07                                | 3.75E-07                           | 1.64E-06                           | 1.64E-06                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Phosphorus                     |                                                |                                               |                                                |                                               |                                       |                                           |                                                |                                        |                                         | 0.00E+00                           | 0.00E+00                           | 0.00E+00                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Pyrene                         | 5.00E-06                                       | 4.25E-06                                      | 4.49E-07                                       | 2.45E-08                                      | 1.52E-07                              | 2.45E-08                                  | 1.07E-07                                       | 6.65E-07                               | 1.07E-07                                | 1.52E-07                           | 6.65E-07                           | 6.65E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Toluene                        | 3.40E-03                                       | 6.20E-03                                      | 3.05E-04                                       | 1.67E-05                                      | 2.21E-04                              | 1.67E-05                                  | 7.30E-05                                       | 9.70E-04                               | 7.30E-05                                | 2.21E-04                           | 9.70E-04                           | 9.70E-04                      |  |  |  |
|                                                                                                                                                                                                                                                                 | 1,1,1-Trichloroethane          |                                                | 2.36E-04                                      |                                                |                                               | 8.43E-06                              |                                           |                                                | 3.69E-05                               |                                         | 8.43E-06                           | 3.69E-05                           | 3.69E-05                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Xylenes                        |                                                | 1.09E-04                                      |                                                |                                               | 3.89E-06                              |                                           |                                                | 1.71E-05                               |                                         | 3.89E-06                           | 1.71E-05                           | 1.71E-05                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Arsenic compounds              | 2.00E-04                                       | 5.60E-10                                      | 1.79E-05                                       | 9.80E-07                                      | 2.00E-11                              | 9.80E-07                                  | 4.29E-06                                       | 8.76E-11                               | 4.29E-06                                | 9.80E-07                           | 4.29E-06                           | 4.29E-06                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Beryllium compounds            | 1.20E-05                                       | 4.20E-10                                      | 1.08E-06                                       | 5.88E-08                                      | 1.50E-11                              | 5.88E-08                                  | 2.58E-07                                       | 6.57E-11                               | 2.58E-07                                | 5.88E-08                           | 2.58E-07                           | 2.58E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Cadmium compounds              | 1.10E-03                                       | 4.20E-10                                      | 9.87E-05                                       | 5.39E-06                                      | 1.50E-11                              | 5.39E-06                                  | 2.36E-05                                       | 6.57E-11                               | 2.36E-05                                | 5.39E-06                           | 2.36E-05                           | 2.36E-05                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Chromium compounds             | 1.40E-03                                       | 4.20E-10                                      | 1.26E-04                                       | 6.86E-06                                      | 1.50E-11                              | 6.86E-06                                  | 3.01E-05                                       | 6.57E-11                               | 3.01E-05                                | 6.86E-06                           | 3.01E-05                           | 3.01E-05                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Cobalt compounds               | 8.40E-05                                       |                                               | 7.54E-06                                       | 4.12E-07                                      |                                       | 4.12E-07                                  | 1.80E-06                                       |                                        | 1.80E-06                                | 4.12E-07                           | 1.80E-06                           | 1.80E-06                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Manganese compounds            | 3.80E-04                                       | 8.40E-10                                      | 3.41E-05                                       | 1.86E-06                                      | 3.00E-11                              | 1.86E-06                                  | 8.16E-06                                       | 1.31E-10                               | 8.16E-06                                | 1.86E-06                           | 8.16E-06                           | 8.16E-06                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Mercury compounds              | 2.60E-04                                       | 4.20E-10                                      | 2.33E-05                                       | 1.27E-06                                      | 1.50E-11                              | 1.27E-06                                  | 5.58E-06                                       | 6.57E-11                               | 5.58E-06                                | 1.27E-06                           | 5.58E-06                           | 5.58E-06                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Nickel compounds               | 2.10E-03                                       | 4.20E-10                                      | 1.88E-04                                       | 1.03E-05                                      | 1.50E-11                              | 1.03E-05                                  | 4.51E-05                                       | 6.57E-11                               | 4.51E-05                                | 1.03E-05                           | 4.51E-05                           | 4.51E-05                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Selenium compounds             | 2.40E-05                                       | 2.10E-09                                      | 2.15E-06                                       | 1.18E-07                                      | 7.50E-11                              | 1.18E-07                                  | 5.15E-07                                       | 3.29E-10                               | 5.15E-07                                | 1.18E-07                           | 5.15E-07                           | 5.15E-07                      |  |  |  |
|                                                                                                                                                                                                                                                                 | HAPs                           |                                                |                                               |                                                | 0.01                                          | 0.00                                  | 0.01                                      | 0.04                                           | 0.01                                   | 0.04                                    | 0.01                               | 0.04                               | 0.04                          |  |  |  |
|                                                                                                                                                                                                                                                                 | Lead                           | 5.00E-04                                       | 1.26E-09                                      | 4.49E-05                                       | 2.45E-06                                      | 4.50E-11                              | 2.45E-06                                  | 1.07E-05                                       | 1.97E-10                               | 1.07E-05                                | 2.45E-06                           | 1.07E-05                           | 1.07E-05                      |  |  |  |
|                                                                                                                                                                                                                                                                 | Total PM                       | 7.60E+00                                       | 3.30E+00                                      | 7.00E-01                                       | 0.04                                          | 0.12                                  | 0.04                                      | 0.16                                           | 0.52                                   | 0.17                                    | 0.12                               | 0.52                               | 0.52                          |  |  |  |
|                                                                                                                                                                                                                                                                 | PM <sub>10</sub>               | 7.60E+00                                       | 2.30E+00                                      | 7.00E-01                                       | 0.04                                          | 0.08                                  | 0.04                                      | 0.16                                           | 0.36                                   | 0.17                                    | 0.08                               | 0.36                               | 0.36                          |  |  |  |
|                                                                                                                                                                                                                                                                 | PM <sub>2.5</sub>              | 7.60E+00                                       | 1.55E+00                                      | 7.00E-01                                       | 0.04                                          | 0.06                                  | 0.04                                      | 0.16                                           | 0.24                                   | 0.17                                    | 0.06                               | 0.24                               | 0.24                          |  |  |  |
|                                                                                                                                                                                                                                                                 | SO <sub>2</sub>                | 6.00E-01                                       | 7.10E+00                                      | 1.50E+00                                       | 0.003                                         | 0.254                                 | 0.08                                      | 0.01                                           | 1.11                                   | 0.36                                    | 0.25                               | 1.11                               | 1.11                          |  |  |  |
|                                                                                                                                                                                                                                                                 | NOx                            | 1.00E+02                                       | 2.00E+01                                      | 1.30E+01                                       | 0.49                                          | 0.71                                  | 0.71                                      | 2.15                                           | 3.13                                   | 3.11                                    | 0.71                               | 3.13                               | 3.13                          |  |  |  |
|                                                                                                                                                                                                                                                                 | VOC                            | 5.50E+00                                       | 3.40E-01                                      | 8.00E-01                                       | 0.03                                          | 0.01                                  | 0.04                                      | 0.12                                           | 0.05                                   | 0.19                                    | 0.04                               | 0.19                               | 0.19                          |  |  |  |
|                                                                                                                                                                                                                                                                 | CO                             | 8.40E+01                                       | 5.00E+00                                      | 7.50E+00                                       | 0.41                                          | 0.18                                  | 0.41                                      | 1.80                                           | 0.78                                   | 1.80                                    | 0.41                               | 1.80                               | 1.80                          |  |  |  |
|                                                                                                                                                                                                                                                                 | CO <sub>2</sub>                | 1.20E+05                                       | 2.23E+04                                      | 1.25E+04                                       | 588                                           | 796                                   | 683                                       | 2.576                                          | 3.488                                  | 2.992                                   | 796                                | 3.488                              | 3.488                         |  |  |  |
|                                                                                                                                                                                                                                                                 | CH <sub>4</sub>                | 2.30E+00                                       | 5.20E-02                                      | 2.00E-01                                       | 0.01                                          | 0.00                                  | 0.01                                      | 0.05                                           | 0.01                                   | 0.05                                    | 0.01                               | 0.05                               | 0.05                          |  |  |  |
|                                                                                                                                                                                                                                                                 | N <sub>2</sub> O               | 2.20E+00                                       | 2.60E-01                                      | 9.00E-01                                       | 0.01                                          | 0.01                                  | 0.05                                      | 0.05                                           | 0.04                                   | 0.22                                    | 0.05                               | 0.22                               | 0.22                          |  |  |  |
|                                                                                                                                                                                                                                                                 | GHG                            |                                                |                                               |                                                | 588                                           | 796                                   | 683                                       | 2.577                                          | 3.488                                  | 2.992                                   | 796                                | 3.488                              | 3.488                         |  |  |  |
|                                                                                                                                                                                                                                                                 | CO <sub>2</sub> e*             |                                                |                                               |                                                | 592                                           | 799                                   | 698                                       | 2.592                                          | 3.501                                  | 3.057                                   | 799                                | 3.501                              | 3.501                         |  |  |  |
| Propane sulfur content from Santa Barbara County Air Pollution Control District Engineering Division Application Processing and Calculations - SOx Emission Factors for Gaseous Fuels (v. 1.0, 1/31/97) [http://www.ourair.org/wp-content/uploads/sulfur01.pdf] |                                |                                                |                                               |                                                |                                               |                                       |                                           |                                                |                                        |                                         |                                    |                                    |                               |  |  |  |
| Use natural gas emission factors for HAPs and lead as a conservative estimate for propane.                                                                                                                                                                      |                                |                                                |                                               |                                                |                                               |                                       |                                           |                                                |                                        |                                         |                                    |                                    |                               |  |  |  |

| Sanimax                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------|---------------------------------|--------------------------------|----------------------------------|------------------------------------|-------------------------------|------------------------------|--------------------------------|------------------------------|------------------------------|-------------------------|
| Boiler No. 2 - EU006 (SV006)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| Combustion Emissions Calculations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| All Emission Factors from AP-42, unless otherwise noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| Capacity:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 17.58                                | MMBtu/hr                               | Limited Fuel Oil Use:                |                                     | 100%                                  |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| #2 Fuel Oil:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.125567                             | 1000 gal/hr                            | #2 Fuel Oil Heating Value:           |                                     | 0.140005                              | MMBtu/gal                            | S (No. 2):                      |                                | 0.05                             | %                                  |                               |                              |                                |                              |                              |                         |
| Natural Gas:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.017235                             | MMcft/hr                               | Natural Gas Heating Value:           |                                     | 1020                                  | Btu/cf                               |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| Refined Animal Fat:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.140640                             | 1000 gal/hr                            | Refined Animal Fat Heating Value:    |                                     | 0.125                                 | MMBtu/gal                            |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| Vegetable Oil:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.146500                             | 1000 gal/hr                            | Vegetable Oil Heating Value:         |                                     | 0.120                                 | MMBtu/gal                            | S (RAFVO):                      |                                | 0.1                              | %                                  |                               |                              |                                |                              |                              |                         |
| Propane:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.192131                             | 1000 gal/hr                            | Propane Heating Value:               |                                     | 0.0915                                | MMBtu/gal                            | S (propane):                    |                                | 15                               | gr/100 scf                         |                               |                              |                                |                              |                              |                         |
| Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Pollutant                            | Natural Gas Emission Factor (lb/MMcft) | #2 Oil Emission Factor (lb/1000 gal) | RAFVO Emission Factor (lb/1000 gal) | Propane Emission Factor (lb/1000 gal) | Natural Gas Hourly Potential (lb/hr) | #2 Oil Hourly Potential (lb/hr) | RAFVO Hourly Potential (lb/hr) | Propane Hourly Potential (lb/hr) | Natural Gas Annual Potential (tpy) | #2 Oil Annual Potential (tpy) | RAFVO Annual Potential (tpy) | Propane Annual Potential (tpy) | Worst Case Emissions (lb/hr) | Unrestricted Potential (tpy) | Limited Potential (tpy) |
| EU006 Boiler 2 Fuels: Distillate (#2) Fuel Oil, Natural Gas, Propane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Acenaphthene                         | 1.80E-06                               | 2.11E-05                             | 2.11E-05                            | 1.61E-07                              | 3.10E-08                             | 2.65E-06                        | 3.09E-06                       | 3.10E-08                         | 1.36E-07                           | 1.16E-05                      | 1.35E-05                     | 1.36E-07                       | 3.09E-06                     | 1.35E-05                     | 1.35E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Acenaphthylene                       | 1.80E-06                               | 2.53E-07                             | 2.53E-07                            | 1.61E-07                              | 3.10E-08                             | 3.18E-08                        | 3.71E-08                       | 3.10E-08                         | 1.36E-07                           | 1.39E-07                      | 1.62E-07                     | 1.36E-07                       | 3.71E-08                     | 1.62E-07                     | 1.62E-07                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Anthracene                           | 2.40E-06                               | 1.22E-06                             | 1.22E-06                            | 2.15E-07                              | 4.14E-08                             | 1.53E-07                        | 1.79E-07                       | 4.14E-08                         | 1.81E-07                           | 6.71E-07                      | 7.83E-07                     | 1.81E-07                       | 1.79E-07                     | 7.83E-07                     | 7.83E-07                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | benz(a)anthracene                    | 1.80E-06                               | 4.01E-06                             | 4.01E-06                            | 1.61E-07                              | 3.10E-08                             | 5.04E-07                        | 5.87E-07                       | 3.10E-08                         | 1.36E-07                           | 2.21E-06                      | 2.57E-06                     | 1.36E-07                       | 5.87E-07                     | 2.57E-06                     | 2.57E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzene                              | 2.10E-03                               | 2.14E-04                             | 2.14E-04                            | 1.88E-04                              | 3.62E-05                             | 2.69E-05                        | 3.14E-05                       | 3.62E-05                         | 1.59E-04                           | 1.18E-04                      | 1.37E-04                     | 1.59E-04                       | 3.62E-05                     | 1.59E-04                     | 1.59E-04                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzo(a)pyrene                       | 1.20E-06                               |                                      |                                     | 1.08E-07                              | 2.07E-08                             |                                 |                                | 2.07E-08                         | 9.06E-08                           |                               |                              | 9.06E-08                       | 2.07E-08                     | 9.06E-08                     | 9.06E-08                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzo(b)fluoranthene                 | 1.80E-06                               | 1.48E-06                             | 1.48E-06                            | 1.61E-07                              | 3.10E-08                             | 1.86E-07                        | 2.17E-07                       | 3.10E-08                         | 1.36E-07                           | 8.14E-07                      | 9.50E-07                     | 1.36E-07                       | 2.17E-07                     | 9.50E-07                     | 9.50E-07                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzo(g,h,i)perylene                 | 1.20E-06                               | 2.26E-06                             | 2.26E-06                            | 1.08E-07                              | 2.07E-08                             | 2.84E-07                        | 3.31E-07                       | 2.07E-08                         | 9.06E-08                           | 1.24E-06                      | 1.45E-06                     | 9.06E-08                       | 3.31E-07                     | 1.45E-06                     | 1.45E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzo(k)fluoranthene                 | 1.80E-06                               | 1.48E-06                             | 1.48E-06                            | 1.61E-07                              | 3.10E-08                             | 1.86E-07                        | 2.17E-07                       | 3.10E-08                         | 1.36E-07                           | 8.14E-07                      | 9.50E-07                     | 1.36E-07                       | 2.17E-07                     | 9.50E-07                     | 9.50E-07                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Chrysene                             | 1.80E-06                               | 2.38E-06                             | 2.38E-06                            | 1.61E-07                              | 3.10E-08                             | 2.99E-07                        | 3.49E-07                       | 3.10E-08                         | 1.36E-07                           | 1.31E-06                      | 1.53E-06                     | 1.36E-07                       | 3.49E-07                     | 1.53E-06                     | 1.53E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Dibenzo(a,h)anthracene               | 1.20E-03                               | 1.67E-06                             | 1.67E-06                            | 1.08E-04                              | 2.07E-05                             | 2.10E-07                        | 2.45E-07                       | 2.07E-05                         | 9.06E-05                           | 9.18E-07                      | 1.07E-06                     | 9.06E-05                       | 2.07E-05                     | 9.06E-05                     | 9.06E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Dichlorobenzene                      | 1.20E-03                               |                                      |                                     | 1.08E-04                              | 2.07E-05                             |                                 |                                | 2.07E-05                         | 9.06E-05                           |                               |                              | 9.06E-05                       | 2.07E-05                     | 9.06E-05                     | 9.06E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 7,12-Dimethylbenz(a)anthracene       | 1.60E-05                               |                                      |                                     | 1.44E-06                              | 2.76E-07                             |                                 |                                | 2.76E-07                         | 1.21E-06                           |                               |                              | 1.21E-06                       | 2.76E-07                     | 1.21E-06                     | 1.21E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ethylbenzene                         |                                        | 6.36E-05                             | 6.36E-05                            |                                       |                                      | 7.99E-06                        | 9.32E-06                       |                                  |                                    | 3.50E-05                      | 4.08E-05                     |                                | 9.32E-06                     | 4.08E-05                     | 4.08E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fluoranthene                         | 3.00E-06                               | 4.84E-06                             | 4.84E-06                            | 2.69E-07                              | 5.17E-08                             | 6.08E-07                        | 7.09E-07                       | 5.17E-08                         | 2.26E-07                           | 2.66E-06                      | 3.11E-06                     | 2.26E-07                       | 7.09E-07                     | 3.11E-06                     | 3.11E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fluorene                             | 2.80E-06                               | 4.47E-06                             | 4.47E-06                            | 2.51E-07                              | 4.83E-08                             | 5.61E-07                        | 6.55E-07                       | 4.83E-08                         | 2.11E-07                           | 2.46E-06                      | 2.87E-06                     | 2.11E-07                       | 6.55E-07                     | 2.87E-06                     | 2.87E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Formaldehyde                         | 7.50E-02                               | 3.30E-02                             | 2.40E-03                            | 6.73E-03                              | 1.29E-03                             | 4.14E-03                        | 3.52E-04                       | 1.29E-03                         | 5.66E-03                           | 1.81E-02                      | 1.54E-03                     | 5.66E-03                       | 4.14E-03                     | 1.81E-02                     | 1.81E-02                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Hexane                               | 1.80E+00                               |                                      |                                     | 1.61E-01                              | 3.10E-02                             |                                 |                                | 3.10E-02                         | 1.36E-01                           |                               |                              | 1.36E-01                       | 3.10E-02                     | 1.36E-01                     | 1.36E-01                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Indeno(1,2,3-cd)pyrene               | 1.80E-06                               | 2.14E-06                             | 2.14E-06                            | 1.61E-07                              | 3.10E-08                             | 2.69E-07                        | 3.14E-07                       | 3.10E-08                         | 1.36E-07                           | 1.18E-06                      | 1.37E-06                     | 1.36E-07                       | 3.14E-07                     | 1.37E-06                     | 1.37E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2-Methylnaphthalene                  | 2.40E-05                               |                                      |                                     | 2.15E-06                              | 4.14E-07                             |                                 |                                | 4.14E-07                         | 1.81E-06                           |                               |                              | 1.81E-06                       | 4.14E-07                     | 1.81E-06                     | 1.81E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3-Methylchloranthrene                | 1.80E-06                               |                                      |                                     | 1.61E-07                              | 3.10E-08                             |                                 |                                | 3.10E-08                         | 1.36E-07                           |                               |                              | 1.36E-07                       | 3.10E-08                     | 1.36E-07                     | 1.36E-07                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Naphthalene                          | 6.10E-04                               | 1.13E-03                             | 1.13E-03                            | 5.47E-05                              | 1.05E-05                             | 1.42E-04                        | 1.66E-04                       | 1.05E-05                         | 4.60E-05                           | 6.21E-04                      | 7.25E-04                     | 4.60E-05                       | 1.66E-04                     | 7.25E-04                     | 7.25E-04                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Phenanthrene                         | 1.70E-05                               | 1.05E-05                             | 1.05E-05                            | 1.53E-06                              | 2.93E-07                             | 1.32E-06                        | 1.54E-06                       | 2.93E-07                         | 1.28E-06                           | 5.77E-06                      | 6.74E-06                     | 1.28E-06                       | 1.54E-06                     | 6.74E-06                     | 6.74E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Phosphorus                           |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              | 0.00E+00                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Pyrene                               | 5.00E-06                               | 4.25E-06                             | 4.25E-06                            | 4.49E-07                              | 8.62E-08                             | 5.34E-07                        | 6.23E-07                       | 8.62E-08                         | 3.77E-07                           | 2.34E-06                      | 2.73E-06                     | 3.77E-07                       | 6.23E-07                     | 2.73E-06                     | 2.73E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Toluene                              | 3.40E-03                               | 6.20E-03                             | 6.20E-03                            | 3.05E-04                              | 5.86E-05                             | 7.79E-04                        | 9.08E-04                       | 5.86E-05                         | 2.57E-04                           | 3.41E-03                      | 3.98E-03                     | 2.57E-04                       | 9.08E-04                     | 3.98E-03                     | 3.98E-03                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,1,1-Trichloroethane                |                                        | 2.36E-04                             | 2.36E-04                            |                                       |                                      | 2.96E-05                        | 3.46E-05                       |                                  |                                    | 1.30E-04                      | 1.51E-04                     |                                | 3.46E-05                     | 1.51E-04                     | 1.51E-04                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Xylenes                              |                                        | 1.09E-04                             | 1.09E-04                            |                                       |                                      | 1.37E-05                        | 1.60E-05                       |                                  |                                    | 5.99E-05                      | 6.99E-05                     |                                | 1.60E-05                     | 6.99E-05                     | 6.99E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Arsenic compounds                    | 2.00E-04                               | 5.60E-10                             | 5.60E-10                            | 1.79E-05                              | 3.45E-06                             | 7.03E-11                        | 8.20E-11                       | 3.45E-06                         | 1.51E-05                           | 3.08E-10                      | 3.59E-10                     | 1.51E-05                       | 3.45E-06                     | 1.51E-05                     | 1.51E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Beryllium compounds                  | 1.20E-05                               | 4.20E-10                             | 4.20E-10                            | 1.08E-06                              | 2.07E-07                             | 5.27E-11                        | 6.15E-11                       | 2.07E-07                         | 9.06E-07                           | 2.31E-10                      | 2.70E-10                     | 9.06E-07                       | 2.07E-07                     | 9.06E-07                     | 9.06E-07                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cadmium compounds                    | 1.10E-03                               | 4.20E-10                             | 4.20E-10                            | 9.87E-05                              | 1.90E-05                             | 5.27E-11                        | 6.15E-11                       | 1.90E-05                         | 8.30E-05                           | 2.31E-10                      | 2.70E-10                     | 8.30E-05                       | 1.90E-05                     | 8.30E-05                     | 8.30E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Chromium compounds                   | 1.40E-03                               | 4.20E-10                             | 4.20E-10                            | 1.26E-04                              | 2.41E-05                             | 5.27E-11                        | 6.15E-11                       | 2.41E-05                         | 1.06E-04                           | 2.31E-10                      | 2.70E-10                     | 1.06E-04                       | 2.41E-05                     | 1.06E-04                     | 1.06E-04                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cobalt compounds                     | 8.40E-05                               |                                      |                                     | 7.54E-06                              | 1.45E-06                             |                                 | 0.00E+00                       | 1.45E-06                         | 6.34E-06                           |                               |                              | 6.34E-06                       | 1.45E-06                     | 6.34E-06                     | 6.34E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Manganese compounds                  | 3.80E-04                               | 8.40E-10                             | 8.40E-10                            | 3.41E-05                              | 6.55E-06                             | 1.05E-10                        | 1.23E-10                       | 6.55E-06                         | 2.87E-05                           | 4.62E-10                      | 5.39E-10                     | 2.87E-05                       | 6.55E-06                     | 2.87E-05                     | 2.87E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Mercury compounds                    | 2.60E-04                               | 4.20E-10                             | 4.20E-10                            | 2.33E-05                              | 4.48E-06                             | 5.27E-11                        | 6.15E-11                       | 4.48E-06                         | 1.96E-05                           | 2.31E-10                      | 2.70E-10                     | 1.96E-05                       | 4.48E-06                     | 1.96E-05                     | 1.96E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Nickel compounds                     | 2.10E-03                               | 4.20E-10                             | 4.20E-10                            | 1.88E-04                              | 3.62E-05                             | 5.27E-11                        | 6.15E-11                       | 3.62E-05                         | 1.59E-04                           | 2.31E-10                      | 2.70E-10                     | 1.59E-04                       | 3.62E-05                     | 1.59E-04                     | 1.59E-04                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Selenium compounds                   | 2.40E-05                               | 2.10E-09                             | 2.10E-09                            | 2.15E-06                              | 4.14E-07                             | 2.64E-10                        | 3.08E-10                       | 4.14E-07                         | 1.81E-06                           | 1.16E-09                      | 1.35E-09                     | 1.81E-06                       | 4.14E-07                     | 1.81E-06                     | 1.81E-06                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HAPs                                 |                                        |                                      |                                     |                                       | 0.03                                 |                                 | 0.01                           | 0.00                             | 0.03                               | 0.14                          | 0.02                         | 6.68E-03                       | 0.14                         | 0.03                         | 0.14                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Lead                                 | 5.00E-04                               | 1.26E-09                             | 1.26E-09                            | 5.00E-04                              | 8.62E-06                             | 1.58E-10                        | 1.85E-10                       | 8.62E-06                         | 3.77E-05                           | 6.93E-10                      | 8.09E-10                     | 3.77E-05                       | 8.62E-06                     | 3.77E-05                     | 3.77E-05                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Total PM                             | 7.60E+00                               | 3.30E+00                             | 2.00E+00                            | 7.00E-01                              | 0.13                                 | 0.41                            | 0.29                           | 0.13                             | 0.57                               | 1.81                          | 1.28                         | 0.59                           | 0.41                         | 1.81                         | 1.81                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | PM <sub>10</sub>                     | 7.60E+00                               | 2.30E+00                             | 1.77E+00                            | 7.00E-01                              | 0.13                                 | 0.29                            | 0.26                           | 0.13                             | 0.57                               | 1.26                          | 1.13                         | 0.59                           | 0.29                         | 1.26                         | 1.26                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | PM <sub>2.5</sub>                    | 7.60E+00                               | 1.55E+00                             | 1.27E+00                            | 7.00E-01                              | 0.13                                 | 0.19                            | 0.19                           | 0.13                             | 0.57                               | 0.85                          | 0.82                         | 0.59                           | 0.19                         | 0.85                         | 0.85                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | SO <sub>2</sub>                      | 6.00E-01                               | 7.10E+00                             | 1.50E+01                            | 1.50E+00                              | 0.010                                | 0.89                            | 2.20                           | 0.29                             | 0.05                               | 3.90                          | 9.63                         | 1.26                           | 2.20                         | 9.63                         | 9.63                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NOx                                  | 1.00E+02                               | 2.00E+01                             | 2.14E+01                            | 1.30E+01                              | 1.72                                 | 2.51                            | 3.14                           | 2.50                             | 7.55                               | 11.00                         | 13.75                        | 10.94                          | 3.14                         | 13.75                        | 13.75                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | VOC                                  | 5.50E+00                               | 3.40E-01                             | 2.03E-02                            | 8.00E-01                              | 0.09                                 | 0.04                            | 0.00                           | 0.15                             | 0.42                               | 0.19                          | 0.01                         | 0.67                           | 0.15                         | 0.67                         | 0.67                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CO                                   | 8.40E+01                               | 5.00E+00                             | 5.85E+00                            | 7.50E+00                              | 1.45                                 | 0.63                            | 0.86                           | 1.44                             | 6.34                               | 2.75                          | 3.75                         | 6.31                           | 1.45                         | 6.34                         | 6.34                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CO <sub>2</sub>                      | 1.20E+05                               | 2.23E+04                             |                                     | 1.25E+04                              | 2.068                                | 2.800                           |                                | 2.402                            | 9.059                              | 12.265                        |                              | 10.519                         | 3.161                        | 13.846                       | 13.846                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CO <sub>2</sub> - Refined Animal Fat |                                        |                                      | 1.96E+04                            |                                       |                                      |                                 | 2.755                          |                                  |                                    |                               | 12.065                       |                                |                              |                              |                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CO <sub>2</sub> - Vegetable Oil      |                                        |                                      | 2.16E+04                            |                                       |                                      |                                 | 3.161                          |                                  |                                    |                               | 13.846                       |                                |                              |                              |                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CH <sub>4</sub>                      | 2.30E+00                               | 5.20E-02                             | 5.20E-02                            | 2.00E-01                              | 0.04                                 | 0.01                            | 0.01                           | 0.04                             | 0.17                               | 0.03                          | 0.03                         | 0.17                           | 0.04                         | 0.17                         | 0.17                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N <sub>2</sub> O                     | 2.20E+00                               | 2.60E-01                             | 3.95E-01                            | 9.00E-01                              | 0.04                                 | 0.03                            | 0.06                           | 0.17                             | 0.17                               | 0.14                          | 0.25                         | 0.76                           | 0.17                         | 0.76                         | 0.76                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | GHG                                  |                                        |                                      |                                     |                                       | 2.068                                | 2.800                           | 3.161                          | 2.402                            | 9.059                              | 12.265                        | 13.846                       | 10.520                         | 3.161                        | 13.846                       | 13.846                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CO <sub>2</sub> e*                   |                                        |                                      |                                     |                                       | 2.061                                | 2.810                           | 3.179                          | 2.454                            | 9.113                              | 12.308                        | 13.922                       | 10.749                         | 3.179                        | 13.922                       | 13.922                  |
| RAFVO emission factors: PM, NOx, VOC, CO, and formaldehyde based on yellow grease and tallow emission test results from a 99.5 MMBtu/hr boiler at Sanimax Green Bay, July 2002 and January 2005. Worst-case emission factors used for each pollutant, plus a 50% safety factor. PM <sub>10</sub> and PM <sub>2.5</sub> emission factors based on Total PM value and scaled the same as AP-42 factors for fuel oil no. 4 (PM <sub>10</sub> = 88% of PM; PM <sub>2.5</sub> = 64% of PM). SO <sub>2</sub> and CH <sub>4</sub> emission factor for fuel oil no. 4 (AP-42 Tables 1.3-1 & 1.3-3). Fuel oil no. 2 emission factors for HAPs (except formaldehyde) and lead were used as a conservative estimate. N <sub>2</sub> O emission factors are equal to the average of the emission factors for no. 6 and no. 2 fuel oils (AP-42 Tables 1.3-6 & 1.3-12). CO <sub>2</sub> emission factors for rendered animal fat and vegetable oil from 40 CFR Part 98, Table C-1. |                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| Table C-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| RAFVO heating values are the default high heat values for rendered animal fat and vegetable oil from 40 CFR Part 98, Table C-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| Propane sulfur content from Santa Barbara County Air Pollution Control District Engineering Division Application Processing and Calculations - SOx Emission Factors for Gaseous Fuels (v. 1.0, 1/31/97) [http://www.ourair.org/wp-content/uploads/sulfur01.pdf]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |
| Use natural gas emission factors for HAPs and lead as a conservative estimate for propane.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |

| Sanimax                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------|---------------------------------|--------------------------------|----------------------------------|------------------------------------|-------------------------------|------------------------------|--------------------------------|------------------------------|------------------------------|-------------------------|----------|
| Boiler No. 3 - EU023 / CE (SV020)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
| Combustion Emissions Calculations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
| All Emission Factors from AP-42, unless otherwise noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
| Capacity:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                        | 98                                   | MMBtu/hr =                          |                                       | Limited Fuel Oil Use:                |                                 |                                | 100%                             |                                    |                               |                              |                                |                              |                              |                         |          |
| #2 Fuel Oil:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        | 0.699975001                          | 1000 gal/hr                         |                                       | #2 Fuel Oil Heating Value:           |                                 |                                | 0.140005                         | MMBtu/gal                          | S (No. 2):                    | 0.05                         | %                              |                              |                              |                         |          |
| Natural Gas:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        | 0.096078431                          | MMcft/hr                            |                                       | Natural Gas Heating Value:           |                                 |                                | 1020                             | Btu/cf                             |                               |                              |                                |                              |                              |                         |          |
| Refined Animal Fat:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        | 0.784000                             | 1000 gal/hr                         |                                       | Refined Animal Fat Heating Value:    |                                 |                                | 0.125                            | MMBtu/gal                          |                               |                              |                                |                              |                              |                         |          |
| Vegetable Oil:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                        | 0.816667                             | 1000 gal/hr                         |                                       | Vegetable Oil Heating Value:         |                                 |                                | 0.120                            | MMBtu/gal                          | S (RAFVO):                    | 0.1                          | %                              |                              |                              |                         |          |
| Propane:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        | 1.071038                             | 1000 gal/hr                         |                                       | Propane Heating Value:               |                                 |                                | 0.0915                           | MMBtu/gal                          | S (propane):                  | 15                           | gr/100 scf                     |                              |                              |                         |          |
| EU023<br>Boiler 3<br>Fuels:<br>Distillate (#2)<br>Fuel Oil,<br>Natural Gas,<br>RAFVO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Natural Gas Emission Factor (lb/MMcft) | #2 Oil Emission Factor (lb/1000 gal) | RAFVO Emission Factor (lb/1000 gal) | Propane Emission Factor (lb/1000 gal) | Natural Gas Hourly Potential (lb/hr) | #2 Oil Hourly Potential (lb/hr) | RAFVO Hourly Potential (lb/hr) | Propane Hourly Potential (lb/hr) | Natural Gas Annual Potential (tpy) | #2 Oil Annual Potential (tpy) | RAFVO Annual Potential (tpy) | Propane Annual Potential (tpy) | Worst Case Emissions (lb/hr) | Unrestricted Potential (tpy) | Limited Potential (tpy) |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Acenaphthene                           | 1.80E-06                             | 2.11E-05                            | 2.11E-05                              | 1.61E-07                             | 1.73E-07                        | 1.48E-05                       | 1.72E-05                         | 1.73E-07                           | 7.57E-07                      | 6.47E-05                     | 7.55E-05                       | 7.57E-07                     | 1.72E-05                     | 7.55E-05                | 7.55E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Acenaphthylene                         | 1.80E-06                             | 2.53E-07                            | 2.53E-07                              | 1.61E-07                             | 1.73E-07                        | 1.77E-07                       | 2.07E-07                         | 1.73E-07                           | 7.57E-07                      | 7.76E-07                     | 9.05E-07                       | 7.57E-07                     | 2.07E-07                     | 9.05E-07                | 9.05E-07 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Anthracene                             | 2.40E-06                             | 1.22E-06                            | 1.22E-06                              | 2.15E-07                             | 2.31E-07                        | 8.54E-07                       | 9.96E-07                         | 2.31E-07                           | 1.01E-06                      | 3.74E-06                     | 4.36E-06                       | 1.01E-06                     | 9.96E-07                     | 4.36E-06                | 4.36E-06 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benz(a)anthracene                      | 1.80E-06                             | 4.01E-06                            | 4.01E-06                              | 1.61E-07                             | 1.73E-07                        | 2.81E-06                       | 3.27E-06                         | 1.73E-07                           | 7.57E-07                      | 1.23E-05                     | 1.43E-05                       | 7.57E-07                     | 3.27E-06                     | 1.43E-05                | 1.43E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzene                                | 2.10E-03                             | 2.14E-04                            | 2.14E-04                              | 1.88E-04                             | 2.02E-04                        | 1.50E-04                       | 1.75E-04                         | 2.02E-04                           | 8.84E-04                      | 6.56E-04                     | 7.65E-04                       | 8.84E-04                     | 2.02E-04                     | 8.84E-04                | 8.84E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzo(a)pyrene                         | 1.20E-06                             |                                     |                                       | 1.08E-07                             | 1.15E-07                        |                                |                                  | 1.15E-07                           | 5.05E-07                      |                              |                                | 5.05E-07                     | 1.15E-07                     | 5.05E-07                | 5.05E-07 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzo(b,k)fluoranthene                 | 1.80E-06                             | 1.48E-06                            | 1.48E-06                              | 1.61E-07                             | 1.73E-07                        | 1.04E-06                       | 1.21E-06                         | 1.73E-07                           | 7.57E-07                      | 4.54E-06                     | 5.29E-06                       | 7.57E-07                     | 1.21E-06                     | 5.29E-06                | 5.29E-06 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzo(g,h,i)perylene                   | 1.20E-06                             | 2.26E-06                            | 2.26E-06                              | 1.08E-07                             | 1.15E-07                        | 1.58E-06                       | 1.85E-06                         | 1.15E-07                           | 5.05E-07                      | 6.93E-06                     | 8.08E-06                       | 5.05E-07                     | 1.85E-06                     | 8.08E-06                | 8.08E-06 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Benzo(k)fluoranthene                   | 1.80E-06                             | 1.48E-06                            | 1.48E-06                              | 1.61E-07                             | 1.73E-07                        | 1.04E-06                       | 1.21E-06                         | 1.73E-07                           | 7.57E-07                      | 4.54E-06                     | 5.29E-06                       | 7.57E-07                     | 1.21E-06                     | 5.29E-06                | 5.29E-06 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Chrysene                               | 1.80E-06                             | 2.38E-06                            | 2.38E-06                              | 1.61E-07                             | 1.73E-07                        | 1.67E-06                       | 1.94E-06                         | 1.73E-07                           | 7.57E-07                      | 7.30E-06                     | 8.51E-06                       | 7.57E-07                     | 1.94E-06                     | 8.51E-06                | 8.51E-06 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Dibenz(a,h)anthracene                  | 1.20E-03                             | 1.67E-06                            | 1.67E-06                              | 1.08E-04                             | 1.15E-04                        | 1.17E-06                       | 1.36E-06                         | 1.15E-04                           | 5.05E-04                      | 5.12E-06                     | 5.97E-06                       | 5.05E-04                     | 1.15E-04                     | 5.05E-04                | 5.05E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Dichlorobenzene                        | 1.20E-03                             |                                     |                                       | 1.08E-04                             | 1.15E-04                        |                                |                                  | 1.15E-04                           | 5.05E-04                      |                              |                                | 5.05E-04                     | 1.15E-04                     | 5.05E-04                | 5.05E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 7,12-Dimethylbenz(a)anthracene         | 1.60E-05                             |                                     |                                       | 1.44E-06                             | 1.54E-06                        |                                |                                  | 1.54E-06                           | 6.73E-06                      |                              |                                | 6.73E-06                     | 1.54E-06                     | 6.73E-06                | 6.73E-06 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ethylbenzene                           |                                      | 6.36E-05                            | 6.36E-05                              |                                      |                                 | 4.45E-05                       | 5.19E-05                         |                                    |                               | 1.95E-04                     | 2.27E-04                       |                              | 5.19E-05                     | 2.27E-04                | 2.27E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fluoranthene                           | 3.00E-06                             | 4.84E-06                            | 4.84E-06                              | 2.69E-07                             | 2.88E-07                        | 3.39E-06                       | 3.95E-06                         | 2.88E-07                           | 1.26E-06                      | 1.48E-05                     | 1.73E-05                       | 1.26E-06                     | 3.95E-06                     | 1.73E-05                | 1.73E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fluorene                               | 2.80E-06                             | 4.47E-06                            | 4.47E-06                              | 2.51E-07                             | 2.69E-07                        | 3.13E-06                       | 3.65E-06                         | 2.69E-07                           | 1.18E-06                      | 1.37E-05                     | 1.60E-05                       | 1.18E-06                     | 3.65E-06                     | 1.60E-05                | 1.60E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Formaldehyde                           | 7.50E-02                             | 3.30E-02                            | 2.40E-03                              | 6.73E-03                             | 7.21E-03                        | 2.31E-02                       | 1.96E-03                         | 7.21E-03                           | 3.16E-02                      | 1.01E-01                     | 8.58E-03                       | 3.16E-02                     | 2.31E-02                     | 1.01E-01                | 1.01E-01 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Hexane                                 | 1.80E+00                             |                                     |                                       | 1.61E-01                             | 1.73E-01                        |                                |                                  | 1.73E-01                           | 7.57E-01                      |                              |                                | 7.57E-01                     | 1.73E-01                     | 7.57E-01                | 7.57E-01 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Indeno(1,2,3-cd)pyrene                 | 1.80E-06                             | 2.14E-06                            | 2.14E-06                              | 1.61E-07                             | 1.73E-07                        | 1.50E-06                       | 1.75E-06                         | 1.73E-07                           | 7.57E-07                      | 6.56E-06                     | 7.65E-06                       | 7.57E-07                     | 1.75E-06                     | 7.65E-06                | 7.65E-06 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2-Methylnaphthalene                    | 2.40E-05                             |                                     |                                       | 2.15E-06                             | 2.31E-06                        |                                |                                  | 2.31E-06                           | 1.01E-05                      |                              |                                | 1.01E-05                     | 2.31E-06                     | 1.01E-05                | 1.01E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3-Methylchloranthrene                  | 1.80E-06                             |                                     |                                       | 1.61E-07                             | 1.73E-07                        |                                |                                  | 1.73E-07                           | 7.57E-07                      |                              |                                | 7.57E-07                     | 1.73E-07                     | 7.57E-07                | 7.57E-07 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Naphthalene                            | 6.10E-04                             | 1.13E-03                            | 1.13E-03                              | 5.47E-05                             | 5.86E-05                        | 7.91E-04                       | 9.23E-04                         | 5.86E-05                           | 2.57E-04                      | 3.46E-03                     | 4.04E-03                       | 2.57E-04                     | 9.23E-04                     | 4.04E-03                | 4.04E-03 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Phenanthrene                           | 1.70E-05                             | 1.05E-05                            | 1.05E-05                              | 1.53E-06                             | 1.63E-06                        | 7.35E-06                       | 8.58E-06                         | 1.63E-06                           | 7.15E-06                      | 3.22E-05                     | 3.76E-05                       | 7.15E-06                     | 8.58E-06                     | 3.76E-05                | 3.76E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Phosphorus                             |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Pyrene                                 | 5.00E-06                             | 4.25E-06                            | 4.25E-06                              | 4.49E-07                             | 4.80E-07                        | 2.97E-06                       | 3.47E-06                         | 4.80E-07                           | 2.10E-06                      | 1.30E-05                     | 1.52E-05                       | 2.10E-06                     | 3.47E-06                     | 1.52E-05                | 1.52E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Toluene                                | 3.40E-03                             | 6.20E-03                            | 6.20E-03                              | 3.05E-04                             | 3.27E-04                        | 4.34E-03                       | 5.06E-03                         | 3.27E-04                           | 1.43E-03                      | 1.90E-02                     | 2.22E-02                       | 1.43E-03                     | 5.06E-03                     | 2.22E-02                | 2.22E-02 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,1,1-Trichloroethane                  |                                      | 2.36E-04                            | 2.36E-04                              |                                      |                                 | 1.65E-04                       | 1.93E-04                         |                                    |                               | 7.24E-04                     | 8.44E-04                       |                              | 1.93E-04                     | 8.44E-04                | 8.44E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Xylenes                                |                                      | 1.09E-04                            | 1.09E-04                              |                                      |                                 | 7.63E-05                       | 8.90E-05                         |                                    |                               | 3.34E-04                     | 3.90E-04                       |                              | 8.90E-05                     | 3.90E-04                | 3.90E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Arsenic compounds                      | 2.00E-04                             | 5.60E-10                            | 5.60E-10                              | 1.79E-05                             | 1.92E-05                        | 3.92E-10                       | 4.57E-10                         | 1.92E-05                           | 8.42E-05                      | 1.72E-09                     | 2.00E-09                       | 8.42E-05                     | 1.92E-05                     | 8.42E-05                | 8.42E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Beryllium compounds                    | 1.20E-05                             | 4.20E-10                            | 4.20E-10                              | 1.08E-06                             | 1.15E-06                        | 2.94E-10                       | 3.43E-10                         | 1.15E-06                           | 5.05E-06                      | 1.29E-09                     | 1.50E-09                       | 5.05E-06                     | 1.15E-06                     | 5.05E-06                | 5.05E-06 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cadmium compounds                      | 1.10E-03                             | 4.20E-10                            | 4.20E-10                              | 9.87E-05                             | 1.06E-04                        | 2.94E-10                       | 3.43E-10                         | 1.06E-04                           | 4.63E-04                      | 1.29E-09                     | 1.50E-09                       | 4.63E-04                     | 1.06E-04                     | 4.63E-04                | 4.63E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Chromium compounds                     | 1.40E-03                             | 4.20E-10                            | 4.20E-10                              | 1.26E-04                             | 1.35E-04                        | 2.94E-10                       | 3.43E-10                         | 1.35E-04                           | 5.89E-04                      | 1.29E-09                     | 1.50E-09                       | 5.89E-04                     | 1.35E-04                     | 5.89E-04                | 5.89E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cobalt compounds                       | 8.40E-05                             |                                     |                                       | 7.54E-06                             | 8.07E-06                        |                                |                                  | 8.07E-06                           | 3.53E-05                      |                              |                                | 3.53E-05                     | 8.07E-06                     | 3.53E-05                | 3.53E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Manganese compounds                    | 3.80E-04                             | 8.40E-10                            | 8.40E-10                              | 3.41E-05                             | 3.65E-05                        | 5.88E-10                       | 6.86E-10                         | 3.65E-05                           | 1.60E-04                      | 2.58E-09                     | 3.00E-09                       | 1.60E-04                     | 3.65E-05                     | 1.60E-04                | 1.60E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Mercury compounds                      | 2.60E-04                             | 4.20E-10                            | 4.20E-10                              | 2.33E-05                             | 2.50E-05                        | 2.94E-10                       | 3.43E-10                         | 2.50E-05                           | 1.09E-04                      | 1.29E-09                     | 1.50E-09                       | 1.09E-04                     | 2.50E-05                     | 1.09E-04                | 1.09E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Nickel compounds                       | 2.10E-03                             | 4.20E-10                            | 4.20E-10                              | 1.88E-04                             | 2.02E-04                        | 2.94E-10                       | 3.43E-10                         | 2.02E-04                           | 8.84E-04                      | 1.29E-09                     | 1.50E-09                       | 8.84E-04                     | 2.02E-04                     | 8.84E-04                | 8.84E-04 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Selenium compounds                     | 2.40E-05                             | 2.10E-09                            | 2.10E-09                              | 2.15E-06                             | 2.31E-06                        | 1.47E-09                       | 1.72E-09                         | 2.31E-06                           | 1.01E-05                      | 6.44E-09                     | 7.51E-09                       | 1.01E-05                     | 2.31E-06                     | 1.01E-05                | 1.01E-05 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HAPs                                   |                                      |                                     |                                       | 0.18                                 | 0.03                            | 0.01                           | 0.18                             | 0.03                               | 0.80                          | 0.13                         | 0.04                           | 0.80                         | 0.18                         | 0.80                    | 0.80     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Lead                                   | 5.00E-04                             | 1.26E-09                            | 1.26E-09                              | 4.49E-05                             | 4.80E-05                        | 8.82E-10                       | 1.03E-09                         | 4.80E-05                           | 2.10E-04                      | 3.86E-09                     | 4.51E-09                       | 2.10E-04                     | 4.80E-05                     | 2.10E-04                | 2.10E-04 |
| Total PM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 7.60E+00                               | 5.50E+00                             | 2.00E+00                            | 7.00E-01                              | 0.73                                 | 3.85                            | 1.63                           | 0.75                             | 3.20                               | 16.86                         | 7.14                         | 3.28                           | 3.85                         | 16.86                        | 16.86                   |          |
| PM <sub>10</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 7.60E+00                               | 3.40E+00                             | 1.77E+00                            | 7.00E-01                              | 0.73                                 | 2.38                            | 1.44                           | 0.75                             | 3.20                               | 10.42                         | 6.32                         | 3.28                           | 2.38                         | 10.42                        | 10.42                   |          |
| PM <sub>2.5</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 7.60E+00                               | 1.83E+00                             | 1.27E+00                            | 7.00E-01                              | 0.73                                 | 1.28                            | 1.04                           | 0.75                             | 3.20                               | 5.60                          | 4.55                         | 3.28                           | 1.28                         | 5.60                         | 5.60                    |          |
| SO <sub>2</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6.00E-01                               | 7.10E+00                             | 1.50E+01                            | 1.50E+00                              | 0.06                                 | 4.97                            | 12.25                          | 1.61                             | 0.25                               | 21.77                         | 53.66                        | 7.04                           | 12.25                        | 53.66                        | 53.66                   |          |
| NOx                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3.72E+01                               | 1.43E+01                             | 1.23E+01                            | 3.33E+00                              | 3.57                                 | 10.04                           | 10.04                          | 3.57                             | 15.64                              | 43.99                         | 43.99                        | 15.64                          | 10.04                        | 76.65                        | 43.99                   |          |
| VOC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5.50E+00                               | 2.00E-01                             | 2.03E-02                            | 8.00E-01                              | 0.53                                 | 0.14                            | 0.02                           | 0.86                             | 2.31                               | 0.61                          | 0.07                         | 3.75                           | 0.86                         | 3.75                         | 3.75                    |          |
| CO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 8.40E+01                               | 5.00E+00                             | 5.85E+00                            | 7.50E+00                              | 8.07                                 | 3.50                            | 4.78                           | 8.03                             | 35.35                              | 15.33                         | 20.92                        | 35.18                          | 8.07                         | 35.35                        | 35.35                   |          |
| CO <sub>2</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.20E+05                               | 2.23E+04                             |                                     | 1.25E+04                              | 11.529                               | 15,609                          |                                | 13,388                           | 50,499                             | 68,369                        |                              | 58,639                         | 17,622                       | 77,185                       | 77,185                  |          |
| CO <sub>2</sub> - Refined Animal Fat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                        |                                      | 1.96E+04                            |                                       |                                      |                                 | 15,355                         |                                  |                                    |                               | 67,256                       |                                |                              |                              |                         |          |
| CO <sub>2</sub> - Vegetable Oil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                        |                                      | 2.16E+04                            |                                       |                                      |                                 | 17,622                         |                                  |                                    |                               | 77,185                       |                                |                              |                              |                         |          |
| CH <sub>4</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2.30E+00                               | 5.20E-02                             | 5.20E-02                            | 2.00E-01                              | 0.22                                 | 0.04                            | 0.04                           | 0.21                             | 0.97                               | 0.16                          | 0.19                         | 0.94                           | 0.22                         | 0.97                         | 0.97                    |          |
| N <sub>2</sub> O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.20E+00                               | 2.60E-01                             | 3.95E-01                            | 9.00E-01                              | 0.21                                 | 0.18                            | 0.32                           | 0.96                             | 0.93                               | 0.80                          | 1.41                         | 4.22                           | 0.96                         | 4.22                         | 4.22                    |          |
| GHG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |                                      |                                     |                                       | 11,530                               | 15,610                          | 17,623                         | 13,389                           | 50,501                             | 68,370                        | 77,187                       | 58,645                         | 17,623                       | 77,187                       | 77,187                  |          |
| CO <sub>2</sub> e**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |                                      |                                     |                                       | 11,598                               | 15,665                          | 17,719                         | 13,681                           | 50,799                             | 68,611                        | 77,611                       | 59,921                         | 17,719                       | 77,611                       | 77,611                  |          |
| Fuel oil no. 2 PM emission factors: Manufacturer-provided guarantee of 0.03 lb/MMBtu (4.2 lb/1000 gal) for filterable PM; filterable PM <sub>10</sub> /PM <sub>2.5</sub> scaled up according to AP-42 Table 1.3-6, based on filterable PM guarantee. Condensable PMPM <sub>10</sub> /PM <sub>2.5</sub> from AP-42 Table 1.3-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
| RAFVO emission factors: PM, NOx, VOC, CO, and formaldehyde based on yellow grease and tallow emission test results from a 99.5 MMBtu/hr boiler at Sanimax Green Bay, July 2002 and January 2005. Worst-case emission factors used for each pollutant, plus a 50% safety factor. PM <sub>10</sub> and PM <sub>2.5</sub> emission factors based on Total PM value and scaled the same as AP-42 factors for fuel oil no. 4 (PM <sub>10</sub> = 88% of PM; PM <sub>2.5</sub> = 64% of PM). SO <sub>2</sub> and CH <sub>4</sub> emission factor for fuel oil no. 4 (AP-42 Tables 1.3-1 & 1.3-3). Fuel oil no. 2 emission factors for HAPs (except formaldehyde) and lead were used as a conservative estimate. N <sub>2</sub> O emission factors are equal to the average of the emission factors for no. 6 and no. 2 fuel oils (AP-42 Tables 1.3-8 & 1.3-12). CO <sub>2</sub> emission factors for rendered animal fat and vegetable oil from 40 CFR Part 98, Table C-1. |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
| RAFVO heating values are the default high heat values for rendered animal fat and vegetable oil from 40 CFR Part 98, Table C-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
| Low-NOx burner emission factors: 30 ppm for natural gas and propane; 80 ppm for fuel oil no. 2 and RAFVO at 3% oxygen. Conversion factors for natural gas and oil from Appendix A of "Output-Based Regulations: A Handbook for Air Regulators," US EPA Combined Heat and Power Partnership, August 2014: <a href="http://www.epa.gov/sites/production/files/2015-07/documents/output-based_regulations_a_handbook_for_air_regulators.pdf">http://www.epa.gov/sites/production/files/2015-07/documents/output-based_regulations_a_handbook_for_air_regulators.pdf</a>                                                                                                                                                                                                                                                                                                                                                                                                 |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
| NOx Unrestricted Potential calculated based on tested emission factor for RAFVO + 50%, assuming no low-NOx burner for emission control.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |
| Propane sulfur content from Santa Barbara County Air Pollution Control District Engineering Division Application Processing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                        |                                      |                                     |                                       |                                      |                                 |                                |                                  |                                    |                               |                              |                                |                              |                              |                         |          |





| Sanimax                                                                                                               |                                |                                       |                                      |                                      |                                      |                                 |                                 |                              |                              |                         |       |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------|---------------------------------|------------------------------|------------------------------|-------------------------|-------|
| Boiler No. 1 - EU001 (SV001)                                                                                          |                                |                                       |                                      |                                      |                                      |                                 |                                 |                              |                              |                         |       |
| Combustion Emissions Calculations - EXISTING                                                                          |                                |                                       |                                      |                                      |                                      |                                 |                                 |                              |                              |                         |       |
| All Emission Factors from AP-42, unless otherwise noted.                                                              |                                |                                       |                                      |                                      |                                      |                                 |                                 |                              |                              |                         |       |
| Red text indicates data that has changed.                                                                             |                                |                                       |                                      |                                      |                                      |                                 |                                 |                              |                              |                         |       |
| Capacity:                                                                                                             | 51                             | MMBtu/hr                              |                                      |                                      |                                      |                                 |                                 |                              |                              |                         |       |
| #6 Fuel Oil:                                                                                                          | 0.34                           | 1000 gal/hr                           |                                      |                                      | #6 Fuel Oil Heating Value:           |                                 | 0.150                           | MMBtu/gal                    |                              | S (No. 6):              | 1.5 % |
| #2 Fuel Oil:                                                                                                          | 0.364272705                    | 1000 gal/hr                           |                                      |                                      | #2 Fuel Oil Heating Value:           |                                 | 0.140005                        | MMBtu/gal                    |                              | S (No. 2):              | 0.5 % |
| Natural Gas:                                                                                                          | 0.05                           | MMcf/hr                               |                                      |                                      | Natural Gas Heating Value:           |                                 | 1020                            | MMBtu/cf                     |                              |                         |       |
| Item                                                                                                                  | Pollutant                      | Natural Gas Emission Factor (lb/MMcf) | #2 Oil Emission Factor (lb/1000 gal) | #6 Oil Emission Factor (lb/1000 gal) | Natural Gas Hourly Potential (lb/hr) | #2 Oil Hourly Potential (lb/hr) | #6 Oil Hourly Potential (lb/hr) | Worst Case Emissions (lb/hr) | Unrestricted Potential (tpy) | Limited Potential (tpy) |       |
| EU001 Boiler 1 Fuels: Distillate (#2) and Residual (#6) Fuel Oil, Natural Gas, Refined Animal Fats and Vegetable Oils | Acenaphthene                   | 1.80E-06                              | 2.11E-05                             | 2.11E-05                             | 9.00E-08                             | 7.69E-06                        | 7.17E-06                        | 7.69E-06                     | 3.37E-05                     | 3.37E-05                |       |
|                                                                                                                       | Acenaphthylene                 | 1.80E-06                              | 2.53E-07                             | 2.53E-07                             | 9.00E-08                             | 9.22E-08                        | 8.60E-08                        | 9.22E-08                     | 4.04E-07                     | 4.04E-07                |       |
|                                                                                                                       | Anthracene                     | 2.40E-06                              | 1.22E-06                             | 1.22E-06                             | 1.20E-07                             | 4.44E-07                        | 4.15E-07                        | 4.44E-07                     | 1.95E-06                     | 1.95E-06                |       |
|                                                                                                                       | Benz(a)anthracene              | 1.80E-06                              | 4.01E-06                             | 4.01E-06                             | 9.00E-08                             | 1.46E-06                        | 1.36E-06                        | 1.46E-06                     | 6.40E-06                     | 6.40E-06                |       |
|                                                                                                                       | Benzene                        | 2.10E-03                              | 2.14E-04                             | 2.14E-04                             | 1.05E-04                             | 7.80E-05                        | 7.28E-05                        | 1.05E-04                     | 4.60E-04                     | 4.60E-04                |       |
|                                                                                                                       | Benzo(a)pyrene                 | 1.20E-06                              |                                      |                                      | 6.00E-08                             |                                 |                                 | 6.00E-08                     | 2.63E-07                     | 2.63E-07                |       |
|                                                                                                                       | Benzo(b)fluoranthene           | 1.80E-06                              | 1.48E-06                             | 1.48E-06                             | 9.00E-08                             | 5.39E-07                        | 5.03E-07                        | 5.39E-07                     | 2.36E-06                     | 2.36E-06                |       |
|                                                                                                                       | Benzo(g,h,i)perylene           | 1.20E-06                              | 2.26E-06                             | 2.26E-06                             | 6.00E-08                             | 8.23E-07                        | 7.68E-07                        | 8.23E-07                     | 3.61E-06                     | 3.61E-06                |       |
|                                                                                                                       | Benzo(k)fluoranthene           | 1.80E-06                              | 1.48E-06                             | 1.48E-06                             | 9.00E-08                             | 5.39E-07                        | 5.03E-07                        | 5.39E-07                     | 2.36E-06                     | 2.36E-06                |       |
|                                                                                                                       | Chrysene                       | 1.80E-06                              | 2.38E-06                             | 2.38E-06                             | 9.00E-08                             | 8.67E-07                        | 8.09E-07                        | 8.67E-07                     | 3.80E-06                     | 3.80E-06                |       |
|                                                                                                                       | Dibenzo(a,h)anthracene         | 1.20E-03                              | 1.67E-06                             | 1.67E-06                             | 6.00E-05                             | 6.08E-07                        | 5.68E-07                        | 6.00E-05                     | 2.63E-04                     | 2.63E-04                |       |
|                                                                                                                       | Dichlorobenzene                | 1.20E-03                              |                                      |                                      | 6.00E-05                             |                                 |                                 | 6.00E-05                     | 2.63E-04                     | 2.63E-04                |       |
|                                                                                                                       | 7,12-Dimethylbenz(a)anthracene | 1.60E-05                              |                                      |                                      | 8.00E-07                             |                                 |                                 | 8.00E-07                     | 3.50E-06                     | 3.50E-06                |       |
|                                                                                                                       | Ethylbenzene                   |                                       | 6.36E-05                             | 6.36E-05                             |                                      | 2.32E-05                        | 2.16E-05                        | 2.32E-05                     | 1.01E-04                     | 1.01E-04                |       |
|                                                                                                                       | Fluoranthene                   | 3.00E-06                              | 4.84E-06                             | 4.84E-06                             | 1.50E-07                             | 1.76E-06                        | 1.65E-06                        | 1.76E-06                     | 7.72E-06                     | 7.72E-06                |       |
|                                                                                                                       | Fluorene                       | 2.80E-06                              | 4.47E-06                             | 4.47E-06                             | 1.40E-07                             | 1.63E-06                        | 1.52E-06                        | 1.63E-06                     | 7.13E-06                     | 7.13E-06                |       |
|                                                                                                                       | Formaldehyde                   | 7.50E-02                              | 3.30E-02                             | 3.30E-02                             | 3.75E-03                             | 1.20E-02                        | 1.12E-02                        | 1.20E-02                     | 5.27E-02                     | 5.27E-02                |       |
|                                                                                                                       | Hexane                         | 1.80E+00                              |                                      |                                      | 9.00E-02                             |                                 |                                 | 9.00E-02                     | 3.94E-01                     | 3.94E-01                |       |
|                                                                                                                       | Indeno(1,2,3-cd)pyrene         | 1.80E-06                              | 2.14E-06                             | 2.14E-06                             | 9.00E-08                             | 7.80E-07                        | 7.28E-07                        | 7.80E-07                     | 3.41E-06                     | 3.41E-06                |       |
|                                                                                                                       | 2-Methylnaphthalene            | 2.40E-05                              |                                      |                                      | 1.20E-06                             |                                 |                                 | 1.20E-06                     | 5.26E-06                     | 5.26E-06                |       |
|                                                                                                                       | 3-Methylchloranthrene          | 1.80E-06                              |                                      |                                      | 9.00E-08                             |                                 |                                 | 9.00E-08                     | 3.94E-07                     | 3.94E-07                |       |
|                                                                                                                       | Naphthalene                    | 6.10E-04                              | 1.13E-03                             | 1.13E-03                             | 3.05E-05                             | 4.12E-04                        | 3.84E-04                        | 4.12E-04                     | 1.80E-03                     | 1.80E-03                |       |
|                                                                                                                       | Phenanthrene                   | 1.70E-05                              | 1.05E-05                             | 1.05E-05                             | 8.50E-07                             | 3.82E-06                        | 3.57E-06                        | 3.82E-06                     | 1.68E-05                     | 1.68E-05                |       |
|                                                                                                                       | Phosphorus                     |                                       |                                      | 9.46E-03                             |                                      |                                 |                                 | 3.22E-03                     | 1.41E-02                     | 1.41E-02                |       |
|                                                                                                                       | Pyrene                         | 5.00E-06                              | 4.25E-06                             | 4.25E-06                             | 2.50E-07                             | 1.55E-06                        | 1.45E-06                        | 1.55E-06                     | 6.78E-06                     | 6.78E-06                |       |
|                                                                                                                       | Toluene                        | 3.40E-03                              | 6.20E-03                             | 6.20E-03                             | 1.70E-04                             | 2.26E-03                        | 2.11E-03                        | 2.26E-03                     | 9.89E-03                     | 9.89E-03                |       |
|                                                                                                                       | 1,1,1-Trichloroethane          |                                       | 2.36E-04                             | 2.36E-04                             |                                      | 8.60E-05                        | 8.02E-05                        | 8.60E-05                     | 3.77E-04                     | 3.77E-04                |       |
|                                                                                                                       | Xylenes                        |                                       | 1.09E-04                             | 1.09E-04                             |                                      | 3.97E-05                        | 3.71E-05                        | 3.97E-05                     | 1.74E-04                     | 1.74E-04                |       |
|                                                                                                                       | Antimony compounds             | 5.25E-03                              |                                      | 5.25E-03                             | 2.63E-04                             |                                 | 1.79E-03                        | 1.79E-03                     | 7.82E-03                     | 7.82E-03                |       |
|                                                                                                                       | Arsenic compounds              | 2.00E-04                              | 5.60E-10                             | 1.32E-03                             | 1.00E-05                             | 2.04E-10                        | 4.49E-04                        | 4.49E-04                     | 1.97E-03                     | 1.97E-03                |       |
|                                                                                                                       | Beryllium compounds            | 1.20E-05                              | 4.20E-10                             | 2.78E-05                             | 6.00E-07                             | 1.53E-10                        | 9.45E-06                        | 9.45E-06                     | 4.14E-05                     | 4.14E-05                |       |
|                                                                                                                       | Cadmium compounds              | 1.10E-03                              | 4.20E-10                             | 3.98E-04                             | 5.50E-05                             | 1.53E-10                        | 1.35E-04                        | 1.35E-04                     | 5.93E-04                     | 5.93E-04                |       |
|                                                                                                                       | Chromium compounds             | 1.40E-03                              | 4.20E-10                             | 1.09E-03                             | 7.00E-05                             | 1.53E-10                        | 3.72E-04                        | 3.72E-04                     | 1.63E-03                     | 1.63E-03                |       |
|                                                                                                                       | Cobalt compounds               | 8.40E-05                              |                                      | 6.02E-03                             | 4.20E-06                             | 0.00E+00                        | 2.05E-03                        | 2.05E-03                     | 8.96E-03                     | 8.96E-03                |       |
|                                                                                                                       | Manganese compounds            | 3.80E-04                              | 8.40E-10                             | 3.00E-03                             | 1.90E-05                             | 3.06E-10                        | 1.02E-03                        | 1.02E-03                     | 4.47E-03                     | 4.47E-03                |       |
|                                                                                                                       | Mercury compounds              | 2.60E-04                              | 4.20E-10                             | 1.13E-04                             | 1.30E-05                             | 1.53E-10                        | 3.84E-05                        | 3.84E-05                     | 1.68E-04                     | 1.68E-04                |       |
|                                                                                                                       | Nickel compounds               | 2.10E-03                              | 4.20E-10                             | 8.45E-02                             | 1.05E-04                             | 1.53E-10                        | 2.87E-02                        | 2.87E-02                     | 1.26E-01                     | 1.26E-01                |       |
|                                                                                                                       | Selenium compounds             | 2.40E-05                              | 2.10E-09                             | 6.83E-04                             | 1.20E-06                             | 7.65E-10                        | 2.32E-04                        | 2.32E-04                     | 1.02E-03                     | 1.02E-03                |       |
|                                                                                                                       | HAPs                           |                                       |                                      |                                      | 0.09                                 | 0.01                            | 0.05                            | 0.09                         | 0.41                         | 0.41                    |       |
|                                                                                                                       | Lead                           | 5.00E-04                              | 1.26E-09                             | 1.51E-03                             | 2.50E-05                             | 4.59E-10                        | 5.13E-04                        | 5.13E-04                     | 2.25E-03                     | 2.25E-03                |       |
|                                                                                                                       | Total PM                       | 7.60E+00                              | 3.30E+00                             | 1.86E+01                             | 3.80E-01                             | 1.20E+00                        | 6.32E+00                        | 6.32                         | 27.69                        | 27.69                   |       |
|                                                                                                                       | PM <sub>10</sub>               | 7.60E+00                              | 2.30E+00                             | 1.62E+01                             | 3.80E-01                             | 8.38E-01                        | 5.51E+00                        | 5.51                         | 24.12                        | 24.12                   |       |
|                                                                                                                       | PM <sub>2.5</sub>              | 7.60E+00                              | 1.55E+00                             | 1.11E+01                             | 3.80E-01                             | 5.65E-01                        | 3.76E+00                        | 3.76                         | 16.49                        | 16.49                   |       |
|                                                                                                                       | SO <sub>2</sub>                | 6.00E-01                              | 7.10E+01                             | 2.36E+02                             | 3.00E-02                             | 2.59E+01                        | 8.01E+01                        | 80.07                        | 350.71                       | 350.71                  |       |
|                                                                                                                       | NOx                            | 1.00E+02                              | 2.00E+01                             | 5.50E+01                             | 5.00E+00                             | 7.29E+00                        | 1.87E+01                        | 18.70                        | 81.91                        | 81.91                   |       |
|                                                                                                                       | VOC                            | 5.50E+00                              | 3.40E-01                             | 2.80E-01                             | 2.75E-01                             | 1.24E-01                        | 9.52E-02                        | 0.28                         | 1.20                         | 1.20                    |       |
|                                                                                                                       | CO                             | 8.40E+01                              | 5.00E+00                             | 5.00E+00                             | 4.20E+00                             | 1.82E+00                        | 1.70E+00                        | 4.20                         | 18.40                        | 18.40                   |       |
|                                                                                                                       | CO <sub>2</sub>                | 1.20E+05                              | 2.23E+04                             | 2.44E+04                             | 6.00E+03                             | 8.12E+03                        | 8.30E+03                        | 8,296                        | 36,336                       | 36,336                  |       |
|                                                                                                                       | CH <sub>4</sub>                | 2.30E+00                              | 5.20E-02                             | 1.00E-01                             | 1.15E-01                             | 1.89E-02                        | 3.40E-01                        | 0.340                        | 1.49                         | 1.49                    |       |
|                                                                                                                       | N <sub>2</sub> O               | 2.20E+00                              | 2.60E-01                             | 5.30E-01                             | 1.10E-01                             | 9.47E-02                        | 1.80E-01                        | 0.180                        | 0.79                         | 0.79                    |       |
|                                                                                                                       | GHG                            |                                       |                                      |                                      | 6.00E+03                             | 8.12E+03                        | 8.30E+03                        | 8,297                        | 36,339                       | 36,339                  |       |
|                                                                                                                       | CO <sub>2</sub> e              |                                       |                                      |                                      | 6.04E+03                             | 8.15E+03                        | 8.36E+03                        | 8,358                        | 36,609                       | 36,609                  |       |

| Sanimax                                                                             |                                |                               |                                       |                                 |                                      |                                          |                              |                         |            |     |   |
|-------------------------------------------------------------------------------------|--------------------------------|-------------------------------|---------------------------------------|---------------------------------|--------------------------------------|------------------------------------------|------------------------------|-------------------------|------------|-----|---|
| Blood/Ring Dryer - EU002 (SV002)                                                    |                                |                               |                                       |                                 |                                      |                                          |                              |                         |            |     |   |
| Combustion Emissions Calculations - EXISTING - (does not include process emissions) |                                |                               |                                       |                                 |                                      |                                          |                              |                         |            |     |   |
| All Emission Factors from AP-42, unless otherwise noted.                            |                                |                               |                                       |                                 |                                      |                                          |                              |                         |            |     |   |
| Capacity:                                                                           | 5 MMBtu/hr                     |                               |                                       |                                 |                                      |                                          |                              |                         |            |     |   |
| #2 Fuel Oil:                                                                        | 0.03571301                     | 1000 gal/hr                   |                                       | #2 Fuel Oil Heating Value:      |                                      | 0.140005                                 | MMBtu/gal                    |                         | S (No. 2): | 0.5 | % |
| Natural Gas:                                                                        | 0.004901961                    | MMcf/hr                       |                                       | Natural Gas Heating Value:      |                                      | 1020                                     | MMBtu/cf                     |                         |            |     |   |
| Item                                                                                | Pollutant                      | Emission Factor (lb/1000 gal) | Natural Gas Emission Factor (lb/MMcf) | #2 Oil Hourly Potential (lb/hr) | Natural Gas Hourly Potential (lb/hr) | Worst Case Fuel Hourly Potential (lb/hr) | Unrestricted Potential (tpy) | Limited Potential (tpy) |            |     |   |
| EU002 Dryer Fuels: Distillate (#2) Oil, Natural Gas                                 | Acenaphthene                   | 2.11E-05                      | 1.80E-06                              | 7.54E-07                        | 8.82E-09                             | 7.54E-07                                 | 3.30E-06                     | 3.30E-06                |            |     |   |
|                                                                                     | Acenaphthylene                 | 2.53E-07                      | 1.80E-06                              | 9.04E-09                        | 8.82E-09                             | 9.04E-09                                 | 3.96E-08                     | 3.96E-08                |            |     |   |
|                                                                                     | Anthracene                     | 1.22E-06                      | 2.40E-06                              | 4.36E-08                        | 1.18E-08                             | 4.36E-08                                 | 1.91E-07                     | 1.91E-07                |            |     |   |
|                                                                                     | Benz(a)anthracene              | 4.01E-06                      | 1.80E-06                              | 1.43E-07                        | 8.82E-09                             | 1.43E-07                                 | 6.27E-07                     | 6.27E-07                |            |     |   |
|                                                                                     | Benzene                        | 2.14E-04                      | 2.10E-03                              | 7.64E-06                        | 1.03E-05                             | 1.03E-05                                 | 4.51E-05                     | 4.51E-05                |            |     |   |
|                                                                                     | Benzo(a)pyrene                 |                               | 1.20E-06                              |                                 | 5.88E-09                             | 5.88E-09                                 | 2.58E-08                     | 2.58E-08                |            |     |   |
|                                                                                     | Benzo(b)fluoranthene           | 1.48E-06                      | 1.80E-06                              | 5.29E-08                        | 8.82E-09                             | 5.29E-08                                 | 2.32E-07                     | 2.32E-07                |            |     |   |
|                                                                                     | Benzo(g,h,i)perylene           | 2.26E-06                      | 1.20E-06                              | 8.07E-08                        | 5.88E-09                             | 8.07E-08                                 | 3.54E-07                     | 3.54E-07                |            |     |   |
|                                                                                     | Benzo(k)fluoranthene           | 1.48E-06                      | 1.80E-06                              | 5.29E-08                        | 8.82E-09                             | 5.29E-08                                 | 2.32E-07                     | 2.32E-07                |            |     |   |
|                                                                                     | Chrysene                       | 2.38E-06                      | 1.80E-06                              | 8.50E-08                        | 8.82E-09                             | 8.50E-08                                 | 3.72E-07                     | 3.72E-07                |            |     |   |
|                                                                                     | Dibenzo(a,h)anthracene         | 1.67E-06                      | 1.20E-03                              | 5.96E-08                        | 5.88E-06                             | 5.88E-06                                 | 2.58E-05                     | 2.58E-05                |            |     |   |
|                                                                                     | Dichlorobenzene                |                               | 1.20E-03                              |                                 | 5.88E-06                             | 5.88E-06                                 | 2.58E-05                     | 2.58E-05                |            |     |   |
|                                                                                     | 7,12-Dimethylbenz(a)anthracene |                               | 1.60E-05                              |                                 | 7.84E-08                             | 7.84E-08                                 | 3.44E-07                     | 3.44E-07                |            |     |   |
|                                                                                     | Ethylbenzene                   | 6.36E-05                      |                                       | 2.27E-06                        |                                      | 2.27E-06                                 | 9.95E-06                     | 9.95E-06                |            |     |   |
|                                                                                     | Fluoranthene                   | 4.84E-06                      | 3.00E-06                              | 1.73E-07                        | 1.47E-08                             | 1.73E-07                                 | 7.57E-07                     | 7.57E-07                |            |     |   |
|                                                                                     | Fluorene                       | 4.47E-06                      | 2.80E-06                              | 1.60E-07                        | 1.37E-08                             | 1.60E-07                                 | 6.99E-07                     | 6.99E-07                |            |     |   |
|                                                                                     | Formaldehyde                   | 3.30E-02                      | 7.50E-02                              | 1.18E-03                        | 3.68E-04                             | 1.18E-03                                 | 5.16E-03                     | 5.16E-03                |            |     |   |
|                                                                                     | Hexane                         |                               | 1.80E+00                              | 0.00E+00                        | 8.82E-03                             | 8.82E-03                                 | 3.86E-02                     | 3.86E-02                |            |     |   |
|                                                                                     | Indeno(1,2,3-cd)pyrene         | 2.14E-06                      | 1.80E-06                              | 7.64E-08                        | 8.82E-09                             | 7.64E-08                                 | 3.35E-07                     | 3.35E-07                |            |     |   |
|                                                                                     | 2-Methylnaphthalene            |                               | 2.40E-05                              |                                 | 1.18E-07                             | 1.18E-07                                 | 5.15E-07                     | 5.15E-07                |            |     |   |
|                                                                                     | 3-Methylchloranthrene          |                               | 1.80E-06                              |                                 | 8.82E-09                             | 8.82E-09                                 | 3.86E-08                     | 3.86E-08                |            |     |   |
|                                                                                     | Naphthalene                    | 1.13E-03                      | 6.10E-04                              | 4.04E-05                        | 2.99E-06                             | 4.04E-05                                 | 1.77E-04                     | 1.77E-04                |            |     |   |
|                                                                                     | Phenanthrene                   | 1.05E-05                      | 1.70E-05                              | 3.75E-07                        | 8.33E-08                             | 3.75E-07                                 | 1.64E-06                     | 1.64E-06                |            |     |   |
|                                                                                     | Phosphorus                     |                               |                                       |                                 |                                      |                                          |                              |                         |            |     |   |
|                                                                                     | Pyrene                         | 4.25E-06                      |                                       | 1.52E-07                        |                                      | 1.52E-07                                 | 6.65E-07                     | 6.65E-07                |            |     |   |
|                                                                                     | Toluene                        | 6.20E-03                      | 5.00E-06                              |                                 | 2.45E-08                             | 2.45E-08                                 | 1.07E-07                     | 1.07E-07                |            |     |   |
|                                                                                     | 1,1,1-Trichloroethane          | 2.36E-04                      |                                       | 8.43E-06                        |                                      | 8.43E-06                                 | 3.69E-05                     | 3.69E-05                |            |     |   |
|                                                                                     | Xylenes                        | 1.09E-04                      |                                       | 3.89E-06                        |                                      | 3.89E-06                                 | 1.71E-05                     | 1.71E-05                |            |     |   |
|                                                                                     | Antimony compounds             |                               |                                       |                                 |                                      | 0.00E+00                                 | 0.00E+00                     | 0.00E+00                |            |     |   |
|                                                                                     | Arsenic compounds              | 5.60E-10                      | 2.00E-04                              | 2.00E-11                        | 9.80E-07                             | 9.80E-07                                 | 4.29E-06                     | 4.29E-06                |            |     |   |
|                                                                                     | Beryllium compounds            | 4.20E-10                      | 1.20E-05                              | 1.50E-11                        | 5.88E-08                             | 5.88E-08                                 | 2.58E-07                     | 2.58E-07                |            |     |   |
|                                                                                     | Cadmium compounds              | 4.20E-10                      | 1.10E-03                              | 1.50E-11                        | 5.39E-06                             | 5.39E-06                                 | 2.36E-05                     | 2.36E-05                |            |     |   |
|                                                                                     | Chromium compounds             | 4.20E-10                      | 1.40E-03                              | 1.50E-11                        | 6.86E-06                             | 6.86E-06                                 | 3.01E-05                     | 3.01E-05                |            |     |   |
|                                                                                     | Cobalt compounds               |                               | 8.40E-05                              |                                 | 4.12E-07                             | 4.12E-07                                 | 1.80E-06                     | 1.80E-06                |            |     |   |
|                                                                                     | Manganese compounds            | 8.40E-10                      | 3.80E-04                              | 3.00E-11                        | 1.86E-06                             | 1.86E-06                                 | 8.16E-06                     | 8.16E-06                |            |     |   |
|                                                                                     | Mercury compounds              | 4.20E-10                      | 2.60E-04                              | 1.50E-11                        | 1.27E-06                             | 1.27E-06                                 | 5.58E-06                     | 5.58E-06                |            |     |   |
|                                                                                     | Nickel compounds               | 4.20E-10                      | 2.10E-03                              | 1.50E-11                        | 1.03E-05                             | 1.03E-05                                 | 4.51E-05                     | 4.51E-05                |            |     |   |
|                                                                                     | Selenium compounds             | 2.10E-09                      | 2.40E-05                              | 7.50E-11                        | 1.18E-07                             | 1.18E-07                                 | 5.15E-07                     | 5.15E-07                |            |     |   |
|                                                                                     | HAPs                           |                               |                                       | 0.00                            | 0.01                                 | 0.01                                     | 0.04                         | 0.04                    |            |     |   |
|                                                                                     | Lead                           | 1.26E-09                      | 5.00E-04                              | 4.50E-11                        | 2.45E-06                             | 2.45E-06                                 | 1.07E-05                     | 1.07E-05                |            |     |   |
|                                                                                     | Total PM                       | 3.30E+00                      | 7.60E+00                              | 1.18E-01                        | 3.73E-02                             | 0.12                                     | 0.52                         | 0.52                    |            |     |   |
|                                                                                     | PM <sub>10</sub>               | 2.30E+00                      | 7.60E+00                              | 8.21E-02                        | 3.73E-02                             | 0.08                                     | 0.36                         | 0.36                    |            |     |   |
|                                                                                     | PM <sub>2.5</sub>              | 1.55E+00                      | 7.60E+00                              | 5.54E-02                        | 3.73E-02                             | 0.06                                     | 0.24                         | 0.24                    |            |     |   |
|                                                                                     | SO <sub>2</sub>                | 7.10E+01                      | 6.00E-01                              | 2.54E+00                        | 2.94E-03                             | 2.54                                     | 11.11                        | 11.11                   |            |     |   |
|                                                                                     | NOx                            | 2.00E+01                      | 1.00E+02                              | 7.14E-01                        | 4.90E-01                             | 0.71                                     | 3.13                         | 3.13                    |            |     |   |
|                                                                                     | VOC                            | 3.40E-01                      | 5.50E+00                              | 1.21E-02                        | 2.70E-02                             | 0.03                                     | 0.12                         | 0.12                    |            |     |   |
|                                                                                     | CO                             | 5.00E+00                      | 8.40E+01                              | 1.79E-01                        | 4.12E-01                             | 0.41                                     | 1.80                         | 1.80                    |            |     |   |
|                                                                                     | CO <sub>2</sub>                | 2.23E+04                      | 1.20E+05                              | 7.96E+02                        | 5.88E+02                             | 796.40                                   | 3,488                        | 3,488                   |            |     |   |
|                                                                                     | CH <sub>4</sub>                | 5.20E-02                      | 2.30E+00                              | 1.86E-03                        | 1.13E-02                             | 0.01                                     | 0.05                         | 0.05                    |            |     |   |
|                                                                                     | N <sub>2</sub> O               | 2.60E-01                      | 2.20E+00                              | 9.29E-03                        | 1.08E-02                             | 0.01                                     | 0.05                         | 0.05                    |            |     |   |
|                                                                                     | GHG                            |                               |                                       | 7.96E+02                        | 5.88E+02                             | 796.42                                   | 3,488                        | 3,488                   |            |     |   |
|                                                                                     | CO <sub>2</sub> e              |                               |                                       | 7.99E+02                        | 5.92E+02                             | 799.90                                   | 3,504                        | 3,504                   |            |     |   |

| Sanimax                                                                    |                                |                                       |                                      |                                      |                                 |                              |                              |                         |            |     |   |
|----------------------------------------------------------------------------|--------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|---------------------------------|------------------------------|------------------------------|-------------------------|------------|-----|---|
| Boiler No. 2 - EU006 (SV006)                                               |                                |                                       |                                      |                                      |                                 |                              |                              |                         |            |     |   |
| Combustion Emissions Calculations - EXISTING                               |                                |                                       |                                      |                                      |                                 |                              |                              |                         |            |     |   |
| All Emission Factors from AP-42, unless otherwise noted.                   |                                |                                       |                                      |                                      |                                 |                              |                              |                         |            |     |   |
| Capacity:                                                                  | 17.58                          | MMBtu/hr                              |                                      |                                      |                                 |                              |                              |                         |            |     |   |
| #2 Fuel Oil:                                                               | 0.125566944                    | 1000 gal/hr                           |                                      | #2 Fuel Oil Heating Value:           |                                 | 0.140005                     | MMBtu/gal                    |                         | S (No. 2): | 0.5 | % |
| Natural Gas:                                                               | 0.017235294                    | MMcf/hr                               |                                      | Natural Gas Heating Value:           |                                 | 1020                         | MMBtu/cf                     |                         |            |     |   |
| Item                                                                       | Pollutant                      | Natural Gas Emission Factor (lb/MMcf) | #2 Oil Emission Factor (lb/1000 gal) | Natural Gas Hourly Potential (lb/hr) | #2 Oil Hourly Potential (lb/hr) | Worst Case Emissions (lb/hr) | Unrestricted Potential (tpy) | Limited Potential (tpy) |            |     |   |
| EU006<br>Boiler 2<br>Fuels:<br>Distillate (#2)<br>Fuel Oil,<br>Natural Gas | Acenaphthene                   | 1.80E-06                              | 2.11E-05                             | 3.10E-08                             | 2.65E-06                        | 2.65E-06                     | 1.16E-05                     | 1.16E-05                |            |     |   |
|                                                                            | Acenaphthylene                 | 1.80E-06                              | 2.53E-07                             | 3.10E-08                             | 3.18E-08                        | 3.18E-08                     | 1.39E-07                     | 1.39E-07                |            |     |   |
|                                                                            | Anthracene                     | 2.40E-06                              | 1.22E-06                             | 4.14E-08                             | 1.53E-07                        | 1.53E-07                     | 6.71E-07                     | 6.71E-07                |            |     |   |
|                                                                            | benz(a)anthracene              | 1.80E-06                              | 4.01E-06                             | 3.10E-08                             | 5.04E-07                        | 5.04E-07                     | 2.21E-06                     | 2.21E-06                |            |     |   |
|                                                                            | Benzene                        | 2.10E-03                              | 2.14E-04                             | 3.62E-05                             | 2.69E-05                        | 3.62E-05                     | 1.59E-04                     | 1.59E-04                |            |     |   |
|                                                                            | Benzo(a)pyrene                 | 1.20E-06                              |                                      | 2.07E-08                             |                                 | 2.07E-08                     | 9.06E-08                     | 9.06E-08                |            |     |   |
|                                                                            | Benzo(b)fluoranthene           | 1.80E-06                              | 1.48E-06                             | 3.10E-08                             | 1.86E-07                        | 1.86E-07                     | 8.14E-07                     | 8.14E-07                |            |     |   |
|                                                                            | Benzo(g,h,i)perylene           | 1.20E-06                              | 2.26E-06                             | 2.07E-08                             | 2.84E-07                        | 2.84E-07                     | 1.24E-06                     | 1.24E-06                |            |     |   |
|                                                                            | Benzo(k)fluoranthene           | 1.80E-06                              | 1.48E-06                             | 3.10E-08                             | 1.86E-07                        | 1.86E-07                     | 8.14E-07                     | 8.14E-07                |            |     |   |
|                                                                            | Chrysene                       | 1.80E-06                              | 2.38E-06                             | 3.10E-08                             | 2.99E-07                        | 2.99E-07                     | 1.31E-06                     | 1.31E-06                |            |     |   |
|                                                                            | Dibenzo(a,h)anthracene         | 1.20E-03                              | 1.67E-06                             | 2.07E-05                             | 2.10E-07                        | 2.07E-05                     | 9.06E-05                     | 9.06E-05                |            |     |   |
|                                                                            | Dichlorobenzene                | 1.20E-03                              |                                      | 2.07E-05                             |                                 | 2.07E-05                     | 9.06E-05                     | 9.06E-05                |            |     |   |
|                                                                            | 7,12-Dimethylbenz(a)anthracene | 1.60E-05                              |                                      | 2.76E-07                             |                                 | 2.76E-07                     | 1.21E-06                     | 1.21E-06                |            |     |   |
|                                                                            | Ethylbenzene                   |                                       | 6.36E-05                             |                                      | 7.99E-06                        | 7.99E-06                     | 3.50E-05                     | 3.50E-05                |            |     |   |
|                                                                            | Fluoranthene                   | 3.00E-06                              | 4.84E-06                             | 5.17E-08                             | 6.08E-07                        | 6.08E-07                     | 2.66E-06                     | 2.66E-06                |            |     |   |
|                                                                            | Fluorene                       | 2.80E-06                              | 4.47E-06                             | 4.83E-08                             | 5.61E-07                        | 5.61E-07                     | 2.46E-06                     | 2.46E-06                |            |     |   |
|                                                                            | Formaldehyde                   | 7.50E-02                              | 3.30E-02                             | 1.29E-03                             | 4.14E-03                        | 4.14E-03                     | 1.81E-02                     | 1.81E-02                |            |     |   |
|                                                                            | Hexane                         | 1.80E+00                              |                                      | 3.10E-02                             |                                 | 3.10E-02                     | 1.36E-01                     | 1.36E-01                |            |     |   |
|                                                                            | Indeno(1,2,3-cd)pyrene         | 1.80E-06                              | 2.14E-06                             | 3.10E-08                             | 2.69E-07                        | 2.69E-07                     | 1.18E-06                     | 1.18E-06                |            |     |   |
|                                                                            | 2-Methylnaphthalene            | 2.40E-05                              |                                      | 4.14E-07                             |                                 | 4.14E-07                     | 1.81E-06                     | 1.81E-06                |            |     |   |
|                                                                            | 3-Methylchloranthrene          | 1.80E-06                              |                                      | 3.10E-08                             |                                 | 3.10E-08                     | 1.36E-07                     | 1.36E-07                |            |     |   |
|                                                                            | Naphthalene                    | 6.10E-04                              | 1.13E-03                             | 1.05E-05                             | 1.42E-04                        | 1.42E-04                     | 6.21E-04                     | 6.21E-04                |            |     |   |
|                                                                            | Phenanthrene                   | 1.70E-05                              | 1.05E-05                             | 2.93E-07                             | 1.32E-06                        | 1.32E-06                     | 5.77E-06                     | 5.77E-06                |            |     |   |
|                                                                            | Phosphorus                     |                                       |                                      |                                      |                                 |                              |                              |                         |            |     |   |
|                                                                            | Pyrene                         | 5.00E-06                              | 4.25E-06                             | 8.62E-08                             | 5.34E-07                        | 5.34E-07                     | 2.34E-06                     | 2.34E-06                |            |     |   |
|                                                                            | Toluene                        | 3.40E-03                              | 6.20E-03                             | 5.86E-05                             | 7.79E-04                        | 7.79E-04                     | 3.41E-03                     | 3.41E-03                |            |     |   |
|                                                                            | 1,1,1-Trichloroethane          |                                       | 2.36E-04                             |                                      | 2.96E-05                        | 2.96E-05                     | 1.30E-04                     | 1.30E-04                |            |     |   |
|                                                                            | Xylenes                        |                                       | 1.09E-04                             |                                      | 1.37E-05                        | 1.37E-05                     | 5.99E-05                     | 5.99E-05                |            |     |   |
|                                                                            | Antimony compounds             |                                       |                                      |                                      |                                 | 0.00E+00                     | 0.00E+00                     | 0.00E+00                |            |     |   |
|                                                                            | Arsenic compounds              | 2.00E-04                              | 5.60E-10                             | 3.45E-06                             | 7.03E-11                        | 3.45E-06                     | 1.51E-05                     | 1.51E-05                |            |     |   |
|                                                                            | Beryllium compounds            | 1.20E-05                              | 4.20E-10                             | 2.07E-07                             | 5.27E-11                        | 2.07E-07                     | 9.06E-07                     | 9.06E-07                |            |     |   |
|                                                                            | Cadmium compounds              | 1.10E-03                              | 4.20E-10                             | 1.90E-05                             | 5.27E-11                        | 1.90E-05                     | 8.30E-05                     | 8.30E-05                |            |     |   |
|                                                                            | Chromium compounds             | 1.40E-03                              | 4.20E-10                             | 2.41E-05                             | 5.27E-11                        | 2.41E-05                     | 1.06E-04                     | 1.06E-04                |            |     |   |
|                                                                            | Cobalt compounds               | 8.40E-05                              |                                      | 1.45E-06                             |                                 | 1.45E-06                     | 6.34E-06                     | 6.34E-06                |            |     |   |
|                                                                            | Manganese compounds            | 3.80E-04                              | 8.40E-10                             | 6.55E-06                             | 1.05E-10                        | 6.55E-06                     | 2.87E-05                     | 2.87E-05                |            |     |   |
|                                                                            | Mercury compounds              | 2.60E-04                              | 4.20E-10                             | 4.48E-06                             | 5.27E-11                        | 4.48E-06                     | 1.96E-05                     | 1.96E-05                |            |     |   |
|                                                                            | Nickel compounds               | 2.10E-03                              | 4.20E-10                             | 3.62E-05                             | 5.27E-11                        | 3.62E-05                     | 1.59E-04                     | 1.59E-04                |            |     |   |
|                                                                            | Selenium compounds             | 2.40E-05                              | 2.10E-09                             | 4.14E-07                             | 2.64E-10                        | 4.14E-07                     | 1.81E-06                     | 1.81E-06                |            |     |   |
|                                                                            | HAPs                           |                                       |                                      | 0.03                                 | 0.01                            | 0.03                         | 0.14                         | 0.14                    |            |     |   |
|                                                                            | Lead                           | 5.00E-04                              | 1.26E-09                             | 8.62E-06                             | 1.58E-10                        | 8.62E-06                     | 3.77E-05                     | 3.77E-05                |            |     |   |
|                                                                            | Total PM                       | 7.60E+00                              | 3.30E+00                             | 1.31E-01                             | 4.14E-01                        | 0.41                         | 1.81                         | 1.81                    |            |     |   |
|                                                                            | PM <sub>10</sub>               | 7.60E+00                              | 2.30E+00                             | 1.31E-01                             | 2.89E-01                        | 0.29                         | 1.26                         | 1.26                    |            |     |   |
|                                                                            | PM <sub>2.5</sub>              | 7.60E+00                              | 1.55E+00                             | 1.31E-01                             | 1.95E-01                        | 0.19                         | 0.85                         | 0.85                    |            |     |   |
|                                                                            | SO <sub>2</sub>                | 6.00E-01                              | 7.10E+01                             | 1.03E-02                             | 8.92E+00                        | 8.92                         | 39.05                        | 39.05                   |            |     |   |
|                                                                            | NOx                            | 1.00E+02                              | 2.00E+01                             | 1.72E+00                             | 2.51E+00                        | 2.51                         | 11.00                        | 11.00                   |            |     |   |
|                                                                            | VOC                            | 5.50E+00                              | 2.00E-01                             | 9.48E-02                             | 2.51E-02                        | 0.09                         | 0.42                         | 0.42                    |            |     |   |
|                                                                            | CO                             | 8.40E+01                              | 5.00E+00                             | 1.45E+00                             | 6.28E-01                        | 1.45                         | 6.34                         | 6.34                    |            |     |   |
|                                                                            | CO <sub>2</sub>                | 1.20E+05                              | 2.23E+04                             | 2.07E+03                             | 2.80E+03                        | 2,800                        | 12,265                       | 12,265                  |            |     |   |
|                                                                            | CH <sub>4</sub>                | 2.30E+00                              | 5.20E-02                             | 3.96E-02                             | 6.53E-03                        | 0.04                         | 0.17                         | 0.17                    |            |     |   |
|                                                                            | N <sub>2</sub> O               | 2.20E+00                              | 2.60E-01                             | 3.79E-02                             | 3.26E-02                        | 0.04                         | 0.17                         | 0.17                    |            |     |   |
|                                                                            | GHG                            |                                       |                                      | 2.07E+03                             | 2.80E+03                        | 2,800                        | 12,265                       | 12,265                  |            |     |   |
|                                                                            | CO <sub>2</sub> e              |                                       |                                      | 2.08E+03                             | 2.81E+03                        | 2,812.43                     | 12,318                       | 12,318                  |            |     |   |
|                                                                            | Existing PTE                   | lb/hr                                 | tpy                                  |                                      |                                 |                              |                              |                         |            |     |   |
|                                                                            | CO <sub>2</sub>                | 11,893                                | 52,089                               |                                      |                                 |                              |                              |                         |            |     |   |
|                                                                            | CH <sub>4</sub>                | 0.39                                  | 1.71                                 |                                      |                                 |                              |                              |                         |            |     |   |
|                                                                            | N <sub>2</sub> O               | 0.23                                  | 1.00                                 |                                      |                                 |                              |                              |                         |            |     |   |
|                                                                            | GHG                            | 11,893                                | 52,092                               |                                      |                                 |                              |                              |                         |            |     |   |
|                                                                            | CO <sub>2</sub> e              | 11,971                                | 52,431                               |                                      |                                 |                              |                              |                         |            |     |   |

**RAFVO Emission Test Results, Green Bay Sanimax Facility**

July 16-17, 2002 and January 7 & 20, 2005

| Fuel          | Boiler         | Rated<br>MMBtu/hr | Tested<br>MMBtu/hr | Total PM<br>(lb/hr) | Total PM<br>(lb/MMBtu) | CO (lb/hr) | CO<br>(lb/MMBtu) | NOx<br>(lb/hr) | NOx<br>(lb/MMBtu) | VOC<br>(lb/hr) | VOC<br>(lb/MMBtu) | Formaldehyde<br>(lb/1000 gal) |
|---------------|----------------|-------------------|--------------------|---------------------|------------------------|------------|------------------|----------------|-------------------|----------------|-------------------|-------------------------------|
| Yellow Grease | Cleaver-Brooks | 99.5              | 94.1               | 0.87                | 0.0092                 | 2.88       | 0.0306           | 7.89           | 0.0839            | 0.01           | 0.0001            | 0.0016                        |
| Tallow        | Cleaver-Brooks | 99.5              | 97.6               | 1.02                | 0.0105                 | 0.75       | 0.0077           | 10.95          | 0.1122            | --             | --                | --                            |

**Calculated RAFVO Emission Factors, South St. Paul Sanimax Facility**

Proposed Boiler Capacity: 98 MMBtu/hr  
 RAFVO Consumption Rate: 0.769636 1000 gal/hr  
 RAFVO Heating Value: 0.127 MMBtu/gal

| Pollutant    | Max Emission<br>Factor from<br>Test Results<br>(lb/MMBtu) | Max Emission<br>Factor from<br>Test Results<br>(lb/1000 gal) | Fuel Oil No.<br>4 Emission<br>Factor*<br>(lb/1000 gal) | % of Total<br>PM* | Proposed<br>Emission<br>Factors - Scaled<br>up 50% (lb/1000<br>gal) |
|--------------|-----------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------|-------------------|---------------------------------------------------------------------|
| Total PM     | 0.0105                                                    | 1.33                                                         | 8.51                                                   | 100%              | 2.00                                                                |
| PM10         | --                                                        | 1.18                                                         | 7.52                                                   | 88%               | 1.77                                                                |
| PM2.5        | --                                                        | 0.85                                                         | 5.42                                                   | 64%               | 1.27                                                                |
| CO           | 0.0306                                                    | 3.90                                                         | --                                                     | --                | 5.85                                                                |
| NOx          | 0.1122                                                    | 14.29                                                        | --                                                     | --                | 21.43                                                               |
| VOC          | 0.0001                                                    | 0.01                                                         | --                                                     | --                | 0.02                                                                |
| Formaldehyde | --                                                        | 0.0016                                                       | --                                                     | --                | 0.0024                                                              |

\*PM10 and PM2.5 emission factors for RAFVO were scaled based on AP-42 fuel oil no. 4 emission factors.

-Filterable PM emission factors from AP-42 Table 1.3-5 (A = 0.84 for No. 4 oil)

-Condensable PM emission factors from Table 1.3-2 (use factors provided for no. 6 oil)

**Sanimax**  
**Blood/Ring Dryer - EU002 (SV002)**  
**Process Emissions Calculations**  
*\*Does not include combustion emissions\**

**Process Emissions: Blood Drying**

| Pollutant                              | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                        | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| <b>PM</b> <sup>[1]</sup>               | 0.89                      | 0.46        | 1.35  | 2,000                     | 13.54                               | 90                                      | 1.35                      | 5.93      | 59.31                                    |
| <b>PM<sub>10</sub></b> <sup>[2]</sup>  | 0.76                      | 0.46        | 1.22  |                           | 12.20                               | 90                                      | 1.22                      | 5.34      | 53.44                                    |
| <b>PM<sub>2.5</sub></b> <sup>[3]</sup> | 0.27                      | 0.46        | 0.73  |                           | 7.28                                | 90                                      | 0.73                      | 3.19      | 31.90                                    |
| <b>VOC</b> <sup>[4]</sup>              | NA                        | NA          | 0.09  |                           | 0.09                                | NA                                      | 0.09                      | 0.39      | 0.39                                     |

<sup>[1]</sup> PM filterable emission factor is calculated from PM/PM<sub>10</sub> ratio of 100/85 as no AP-42 factor is available. PM condensable is taken from AP-42 Table 9.5.3-2

<sup>[2]</sup> PM<sub>10</sub> filterable is taken from AP-42 Table 9.5.3-2 PM<sub>10</sub> condensable is 100% of PM condensable emission factor

<sup>[3]</sup> PM<sub>2.5</sub> filterable is calculated from PM<sub>2.5</sub>/PM<sub>10</sub> ratio of 30/85, taken from EPA PM calculator based on SCC code 30203801 (Animal/Poultry Rendering - General:Uncontrolled). PM<sub>2.5</sub> condensable is 100% of PM condensable emission factor.

<sup>[4]</sup> VOC emission factor from Air Pollutant Emission Inventory Report 2009



**Sanimax**  
**Protein Recovery Facility (PRF) - EU003 (SV003)**  
**PM, PM<sub>10</sub> and PM<sub>2.5</sub> Emissions Calculations**

Red text indicates data that has changed.

**Drying**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | -                         | -           | 0.87  | 2,000                     | 8.70                                | 90                                      | 0.87                      | 3.81      | 38.11                                    |
| PM <sub>10</sub> <sup>[2]</sup>  | -                         | -           | 0.87  |                           | 8.70                                | 90                                      | 0.87                      | 3.81      | 38.11                                    |
| PM <sub>2.5</sub> <sup>[2]</sup> | -                         | -           | 0.87  |                           | 8.70                                | 90                                      | 0.87                      | 3.81      | 38.11                                    |
| VOC <sup>[3]</sup>               | NA                        | NA          | 0.085 |                           | 0.09                                | NA                                      | 0.09                      | 0.37      | 0.37                                     |

<sup>[1]</sup>Performance test data showing 0.87 lb PM per ton of feathers processed (Braun Intertec Report: Central Bi-Products, Redwood Falls, Minnesota, June 1995). Controlled emissions.

<sup>[2]</sup> PM<sub>10</sub> and PM<sub>2.5</sub> emission factors assumed 100% of PM emission factor

<sup>[3]</sup> VOC emission factor from Air Pollutant Emission Inventory Report 2009

**Cooking**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | 0.56                      | 0.24        | 0.80  | 2,000                     | 0.80                                | 90                                      | 0.08                      | 0.35      | 3.50                                     |
| PM <sub>10</sub> <sup>[2]</sup>  | 0.48                      | 0.24        | 0.72  |                           | 0.72                                | 90                                      | 0.07                      | 0.31      | 3.14                                     |
| PM <sub>2.5</sub> <sup>[3]</sup> | 0.17                      | 0.24        | 0.41  |                           | 0.41                                | 90                                      | 0.04                      | 0.18      | 1.79                                     |
| VOC <sup>[4]</sup>               | NA                        | NA          | 0.085 |                           | 0.09                                | NA                                      | 0.09                      | 0.37      | 0.37                                     |

<sup>[1]</sup>PM filterable and condensable emission factors taken from AP-42 Table 9.13.3-2 for "Continuous Deep Fat Fryer - Other Snack Chips"

<sup>[2]</sup> PM<sub>10</sub> filterable is calculated as 85% of PM filterable, taken from EPA PM calculator based on SCC code 30203803 (Animal/Poultry Rendering - Cooking:Uncontrolled). PM<sub>10</sub> condensable is 100% of PM condensable emission factor.

<sup>[3]</sup> PM<sub>2.5</sub> filterable is calculated as 30% of PM filterable, taken from EPA PM calculator based on SCC code 30203803 (Animal/Poultry Rendering - Cooking:Uncontrolled). PM<sub>2.5</sub> condensable is 100% of PM condensable emission factor.

<sup>[4]</sup> VOC emission factor from Air Pollutant Emission Inventory Report 2009

**Conveying**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | -                         | -           | 0.73  | 2,000                     | 0.73                                | 90                                      | 0.07                      | 0.32      | 3.20                                     |
| PM <sub>10</sub> <sup>[2]</sup>  | -                         | -           | 0.47  |                           | 0.47                                | 90                                      | 0.05                      | 0.21      | 2.06                                     |
| PM <sub>2.5</sub> <sup>[3]</sup> | -                         | -           | 0.47  |                           | 0.47                                | 90                                      | 0.05                      | 0.21      | 2.06                                     |

<sup>[1]</sup>PM emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[2]</sup> PM<sub>10</sub> emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[3]</sup> PM<sub>2.5</sub> emissions factor is calculated as 100% of PM<sub>10</sub> as no AP-42 emission factor is available.

**Milling**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | 0.34                      | -           | 0.34  | 2,000                     | 0.34                                | 90                                      | 0.03                      | 0.15      | 1.47                                     |
| PM <sub>10</sub> <sup>[2]</sup>  | 0.28                      | -           | 0.28  |                           | 0.28                                | 90                                      | 0.03                      | 0.12      | 1.25                                     |
| PM <sub>2.5</sub> <sup>[3]</sup> | 0.10                      | -           | 0.10  |                           | 0.10                                | 90                                      | 0.01                      | 0.04      | 0.44                                     |

<sup>[1]</sup>PM filterable emission factors taken from AP-42 Table 9.9.1-2 for "Hammermill - Cyclone Control" and assumes 80% cyclone control efficiency = 0.067/(1-0.8)

<sup>[2]</sup> PM<sub>10</sub> filterable is calculated as 85% of PM filterable, taken from EPA PM calculator based on SCC code 30203801 (Animal/Poultry Rendering - General:Uncontrolled).

<sup>[3]</sup> PM<sub>2.5</sub> filterable is calculated as 30% of PM filterable, taken from EPA PM calculator based on SCC code 30203801 (Animal/Poultry Rendering - General:Uncontrolled).

**Total PRF Emissions**

| Pollutant         | Process Emission Rate (lbs/hr) | Maximum Unrestricted (tons/yr) | Limited Potential (tons/yr) |
|-------------------|--------------------------------|--------------------------------|-----------------------------|
|                   | (lbs/hr)                       | (tons/yr)                      | (tons/yr)                   |
| PM                | 1.06                           | 46.27                          | 4.63                        |
| PM <sub>10</sub>  | 1.02                           | 44.55                          | 4.45                        |
| PM <sub>2.5</sub> | 0.97                           | 42.39                          | 4.24                        |
| VOC               | 0.17                           | 0.74                           | 0.74                        |

**Sanimax**  
**Blood Pneumatic Conveying System - EU005 (SV005)**  
**PM, PM<sub>10</sub> and PM<sub>2.5</sub> Emissions Calculations**

Red text indicates data that has changed.

**Conveying**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Air Flow (dscfm) | Emission Factor <sup>[1]</sup> (gr/dscf) | Controlled Emission Rates |           | Fabric Filter Control Efficiency (%) | Requested Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|------------------|------------------------------------------|---------------------------|-----------|--------------------------------------|----------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                  |                                          | (lbs/hr)                  | (tons/yr) |                                      |                                  | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[2]</sup>                | -                         | -           | 0.73  | 2,000                     | 0.73                                | 240              | 0.002                                    | 0.004                     | 0.018     | 99.4%                                | 99%                              | 0.007                     | 0.03      | 3.20                                     |
| PM <sub>10</sub> <sup>[3]</sup>  | -                         | -           | 0.47  |                           | 0.47                                |                  |                                          | 0.004                     | 0.018     | 99.1%                                | 99%                              | 0.005                     | 0.02      | 2.06                                     |
| PM <sub>2.5</sub> <sup>[4]</sup> | -                         | -           | 0.47  |                           | 0.47                                |                  |                                          | 0.004                     | 0.018     | 99.1%                                | 99%                              | 0.005                     | 0.02      | 2.06                                     |

<sup>[1]</sup> See attached emission statement

<sup>[2]</sup> PM emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[3]</sup> PM<sub>10</sub> emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[4]</sup> PM<sub>2.5</sub> emissions factor is calculated as 100% of PM<sub>10</sub> as no AP-42 emission factor is available.

**Sanimax**  
**Protein Silos (EU009 & EU010)**  
**PM, PM<sub>10</sub> and PM<sub>2.5</sub> Emissions Calculations**

Red text indicates data that has changed.

**Silo EU009 (SV009)**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Air Flow (dscfm) | Emission Factor <sup>[1]</sup> (gr/dscf) | Controlled Emission Rates |           | Fabric Filter Control Efficiency (%) | Requested Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|------------------|------------------------------------------|---------------------------|-----------|--------------------------------------|----------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                  |                                          | (lbs/hr)                  | (tons/yr) |                                      |                                  | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[2]</sup>                | -                         | -           | 0.73  | 20,000                    | 7.30                                | 566              | 0.002                                    | 0.010                     | 0.042     | 99.9%                                | 99%                              | 0.07                      | 0.32      | 31.97                                    |
| PM <sub>10</sub> <sup>[3]</sup>  | -                         | -           | 0.47  |                           | 4.70                                |                  |                                          | 0.010                     | 0.042     | 99.8%                                | 99%                              | 0.05                      | 0.21      | 20.59                                    |
| PM <sub>2.5</sub> <sup>[4]</sup> | -                         | -           | 0.47  |                           | 4.70                                |                  |                                          | 0.010                     | 0.042     | 99.8%                                | 99%                              | 0.05                      | 0.21      | 20.59                                    |

<sup>[1]</sup> See attached emission statement

<sup>[2]</sup> PM emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[3]</sup> PM<sub>10</sub> emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[4]</sup> PM<sub>2.5</sub> emissions factor is calculated as 100% of PM<sub>10</sub> as no AP-42 emission factor is available.

**Silo EU010 (SV010)**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Air Flow (dscfm) | Emission Factor <sup>[1]</sup> (gr/dscf) | Controlled Emission Rates |           | Fabric Filter Control Efficiency (%) | Requested Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|------------------|------------------------------------------|---------------------------|-----------|--------------------------------------|----------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                  |                                          | (lbs/hr)                  | (tons/yr) |                                      |                                  | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[2]</sup>                | -                         | -           | 0.73  | 20,000                    | 7.30                                | 566              | 0.002                                    | 0.010                     | 0.042     | 99.9%                                | 99%                              | 0.07                      | 0.32      | 31.97                                    |
| PM <sub>10</sub> <sup>[3]</sup>  | -                         | -           | 0.47  |                           | 4.70                                |                  |                                          | 0.010                     | 0.042     | 99.8%                                | 99%                              | 0.05                      | 0.21      | 20.59                                    |
| PM <sub>2.5</sub> <sup>[4]</sup> | -                         | -           | 0.47  |                           | 4.70                                |                  |                                          | 0.010                     | 0.042     | 99.8%                                | 99%                              | 0.05                      | 0.21      | 20.59                                    |

<sup>[1]</sup> See attached emission statement

<sup>[2]</sup> PM emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[3]</sup> PM<sub>10</sub> emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[4]</sup> PM<sub>2.5</sub> emissions factor is calculated as 100% of PM<sub>10</sub> as no AP-42 emission factor is available.

**Sanimax**  
**Cooking Process - EU011, EU012 and EU013 (SV012)**  
**PM, PM<sub>10</sub> and PM<sub>2.5</sub> Emissions Calculations**

**Milling Process - EU011**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Particulate Capture Unit Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-------------------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                                 | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | 0.34                      | -           | 0.34  | 20,000                    | 3.35                                | 90                                              | 0.34                      | 1.47      | 14.67                                    |
| PM <sub>10</sub> <sup>[2]</sup>  | 0.28                      | -           | 0.28  |                           | 2.85                                | 90                                              | 0.28                      | 1.25      | 12.47                                    |
| PM <sub>2.5</sub> <sup>[3]</sup> | 0.10                      | -           | 0.10  |                           | 1.01                                | 90                                              | 0.10                      | 0.44      | 4.40                                     |

<sup>[1]</sup> PM filterable emission factors taken from AP-42 Table 9.9.1-2 for "Hammermill - Cyclone Control" and assumes 80% cyclone control efficiency = 0.067/(1-0.8)

<sup>[2]</sup> PM<sub>10</sub> filterable is calculated as 85% of PM filterable, taken from EPA PM calculator based on SCC code 30203801 (Animal/Poultry Rendering - General:Uncontrolled).

<sup>[3]</sup> PM<sub>2.5</sub> filterable is calculated as 30% of PM filterable, taken from EPA PM calculator based on SCC code 30203801 (Animal/Poultry Rendering - General:Uncontrolled).

**Cooker No. 1 - EU012**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | 0.56                      | 0.24        | 0.80  | 25,000                    | 10.00                               | 90                                      | 1.00                      | 4.38      | 43.80                                    |
| PM <sub>10</sub> <sup>[2]</sup>  | 0.48                      | 0.24        | 0.72  |                           | 8.95                                | 90                                      | 0.90                      | 3.92      | 39.20                                    |
| PM <sub>2.5</sub> <sup>[3]</sup> | 0.17                      | 0.24        | 0.41  |                           | 5.10                                | 90                                      | 0.51                      | 2.23      | 22.34                                    |
| VOC <sup>[4]</sup>               | NA                        | NA          | 0.085 |                           | 1.06                                | NA                                      | 1.06                      | 4.66      | 4.66                                     |

<sup>[1]</sup> PM filterable and condensable emission factors taken from AP-42 Table 9.13.3-2 for "Continuous Deep Fat Fryer - Other Snack Chips"

<sup>[2]</sup> PM<sub>10</sub> filterable is calculated as 85% of PM filterable, taken from EPA PM calculator based on SCC code 30203803 (Animal/Poultry Rendering - Cooking:Uncontrolled). PM<sub>10</sub> condensable is 100% of PM condensable emission factor

<sup>[3]</sup> PM<sub>2.5</sub> filterable is calculated as 30% of PM filterable, taken from EPA PM calculator based on SCC code 30203803 (Animal/Poultry Rendering - Cooking:Uncontrolled). PM<sub>2.5</sub> condensable is 100% of PM condensable emission factor

<sup>[4]</sup> VOC emission factor from MPCA PTE records for GP003, dated January 8, 2013

**Cooker No. 2 - EU013**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | 0.56                      | 0.24        | 0.80  | 25,000                    | 10.00                               | 90                                      | 1.00                      | 4.38      | 43.80                                    |
| PM <sub>10</sub> <sup>[2]</sup>  | 0.48                      | 0.24        | 0.72  |                           | 8.95                                | 90                                      | 0.90                      | 3.92      | 39.20                                    |
| PM <sub>2.5</sub> <sup>[3]</sup> | 0.17                      | 0.24        | 0.41  |                           | 5.10                                | 90                                      | 0.51                      | 2.23      | 22.34                                    |
| VOC <sup>[4]</sup>               | NA                        | NA          | 0.085 |                           | 1.06                                | NA                                      | 1.06                      | 4.66      | 4.66                                     |

<sup>[1]</sup> PM filterable and condensable emission factors taken from AP-42 Table 9.13.3-2 for "Continuous Deep Fat Fryer - Other Snack Chips"

<sup>[2]</sup> PM<sub>10</sub> filterable is calculated as 85% of PM filterable, taken from EPA PM calculator based on SCC code 30203803 (Animal/Poultry Rendering - Cooking:Uncontrolled). PM<sub>10</sub> condensable is 100% of PM condensable emission factor

<sup>[3]</sup> PM<sub>2.5</sub> filterable is calculated as 30% of PM filterable, taken from EPA PM calculator based on SCC code 30203803 (Animal/Poultry Rendering - Cooking:Uncontrolled). PM<sub>2.5</sub> condensable is 100% of PM condensable emission factor

<sup>[4]</sup> VOC emission factor from MPCA PTE records for GP003, dated January 8, 2013

**Total Cooking Process Emissions**

| Pollutant         | Process Emission Rate (lbs/hr) | Maximum Unrestricted (tons/yr) | Limited Potential (tons/yr) |
|-------------------|--------------------------------|--------------------------------|-----------------------------|
| PM                | 2.34                           | 102.27                         | 10.23                       |
| PM <sub>10</sub>  | 2.07                           | 90.87                          | 9.09                        |
| PM <sub>2.5</sub> | 1.12                           | 49.08                          | 4.91                        |
| VOC               | 2.13                           | 9.32                           | 9.32                        |

**Sanimax**  
**Feather Pneumatic Conveying System - EU014 (SV014)**  
**PM, PM<sub>10</sub> and PM<sub>2.5</sub> Emissions Calculations**

Red text indicates data that has changed.

**Conveying**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Air Flow (dscfm) | Emission Factor <sup>[1]</sup> (gr/dscf) | Controlled Emission Rates |           | Fabric Filter Control (%) | Requested Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|------------------|------------------------------------------|---------------------------|-----------|---------------------------|----------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                  |                                          | (lbs/hr)                  | (tons/yr) |                           |                                  | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[2]</sup>                | -                         | -           | 0.73  | 2,500                     | 0.91                                | 240              | 0.002                                    | 0.004                     | 0.018     | 99.5%                     | 99%                              | 0.009                     | 0.04      | 4.00                                     |
| PM <sub>10</sub> <sup>[3]</sup>  | -                         | -           | 0.47  |                           | 0.59                                |                  |                                          | 0.004                     | 0.018     | 99.3%                     | 99%                              | 0.006                     | 0.03      | 2.57                                     |
| PM <sub>2.5</sub> <sup>[4]</sup> | -                         | -           | 0.47  |                           | 0.59                                |                  |                                          | 0.004                     | 0.018     | 99.3%                     | 99%                              | 0.006                     | 0.03      | 2.57                                     |

<sup>[1]</sup> See attached emission statement

<sup>[2]</sup> PM emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[3]</sup> PM<sub>10</sub> emission factor taken from AP-42 Table 11.12-2 "Pneumatic Unloading of Cement to Elevated Storage Silo"

<sup>[4]</sup> PM<sub>2.5</sub> emissions factor is calculated as 100% of PM<sub>10</sub> as no AP-42 emission factor is available.

**Sanimax**  
**PPF Process - EU020, EU021 and EU022 (SV018)**

**PPF Cooking Process - EU020**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | 0.56                      | 0.24        | 0.80  | 37,893                    | 15.16                               | 90                                      | 1.52                      | 6.64      | 66.39                                    |
| PM <sub>10</sub> <sup>[2]</sup>  | 0.48                      | 0.24        | 0.72  |                           | 13.57                               | 90                                      | 1.36                      | 5.94      | 59.42                                    |
| PM <sub>2.5</sub> <sup>[3]</sup> | 0.17                      | 0.24        | 0.41  |                           | 7.73                                | 90                                      | 0.77                      | 3.39      | 33.86                                    |
| VOC <sup>[4]</sup>               | -                         | -           | 0.085 |                           | 1.61                                | NA                                      | 1.61                      | 7.05      | 7.05                                     |

<sup>[1]</sup>PM filterable and condensable emission factors taken from AP-42 Table 9.13.3-2 for "Continuous Deep Fat Fryer - Other Snack Chips"

<sup>[2]</sup> PM<sub>10</sub> filterable is calculated as 85% of PM filterable, taken from EPA PM calculator based on SCC code 30203803 (Animal/Poultry Rendering - Cooking:Uncontrolled). PM<sub>10</sub> condensable is 100% of PM condensable emission factor

<sup>[3]</sup> PM<sub>2.5</sub> filterable is calculated as 30% of PM filterable, taken from EPA PM calculator based on SCC code 30203803 (Animal/Poultry Rendering - Cooking:Uncontrolled). PM<sub>2.5</sub> condensable is 100% of PM condensable emission factor

<sup>[4]</sup>Uncontrolled VOC emission factor taken from AP-42 Table 9.13.3-3 for "Continuous Deep Fat Fryer - Other Snack Chips"

**PPF Pressing Process - EU021**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | 0.56                      | 0.24        | 0.80  | 10,717                    | 4.29                                | 90                                      | 0.43                      | 1.88      | 18.78                                    |
| PM <sub>10</sub> <sup>[2]</sup>  | 0.48                      | 0.24        | 0.72  |                           | 3.84                                | 90                                      | 0.38                      | 1.68      | 16.80                                    |
| PM <sub>2.5</sub> <sup>[3]</sup> | 0.17                      | 0.24        | 0.41  |                           | 2.19                                | 90                                      | 0.22                      | 0.96      | 9.58                                     |
| VOC <sup>[4]</sup>               | -                         | -           | 0.09  |                           | 0.46                                | NA                                      | 0.46                      | 1.99      | 1.99                                     |

<sup>[1]</sup>PM filterable and condensable emission factors taken from AP-42 Table 9.13.3-2 for "Continuous Deep Fat Fryer - Other Snack Chips"

<sup>[2]</sup> PM<sub>10</sub> filterable is calculated as 85% of PM filterable, taken from EPA PM calculator based on SCC code 30203801 (Animal/Poultry Rendering - General:Uncontrolled). PM<sub>10</sub> condensable is 100% of PM condensable emission factor

<sup>[3]</sup> PM<sub>2.5</sub> filterable is calculated as 30% of PM filterable, taken from EPA PM calculator based on SCC code 30203801 (Animal/Poultry Rendering - General:Uncontrolled). PM<sub>2.5</sub> condensable is 100% of PM condensable emission factor

<sup>[4]</sup>VOC emission factor taken from AP-42 Table 9.13.3-3 for "Continuous Deep Fat Fryer - Other Snack Chips"

**PPF Milling Process - EU022**

| Pollutant                        | Emission Factors (lb/ton) |             |       | Process Capacity (lbs/hr) | Uncontrolled Emission Rate (lbs/hr) | Venturi Scrubber Control Efficiency (%) | Controlled Emission Rates |           | Maximum Unrestricted Emissions (tons/yr) |
|----------------------------------|---------------------------|-------------|-------|---------------------------|-------------------------------------|-----------------------------------------|---------------------------|-----------|------------------------------------------|
|                                  | Filterable                | Condensable | Total |                           |                                     |                                         | (lbs/hr)                  | (tons/yr) |                                          |
| PM <sup>[1]</sup>                | 0.34                      | -           | 0.34  | 9,860                     | 1.65                                | 90                                      | 0.17                      | 0.72      | 7.23                                     |
| PM <sub>10</sub> <sup>[2]</sup>  | 0.28                      | -           | 0.28  |                           | 1.40                                | 90                                      | 0.14                      | 0.61      | 6.15                                     |
| PM <sub>2.5</sub> <sup>[3]</sup> | 0.10                      | -           | 0.10  |                           | 0.50                                | 90                                      | 0.05                      | 0.22      | 2.17                                     |

<sup>[1]</sup>PM filterable emission factors taken from AP-42 Table 9.9.1-2 for "Hammermill - Cyclone Control" and assumes 80% cyclone control efficiency = 0.067/(1-0.8)

<sup>[2]</sup> PM<sub>10</sub> filterable is calculated as 85% of PM filterable, taken from EPA PM calculator based on SCC code 30203801 (Animal/Poultry Rendering - General:Uncontrolled)

<sup>[3]</sup> PM<sub>2.5</sub> filterable is calculated as 30% of PM filterable, taken from EPA PM calculator based on SCC code 30203801 (Animal/Poultry Rendering - General:Uncontrolled)

**Total PPF Process Emissions**

| Pollutant         | Process Emission Rate (lbs/hr) | Maximum Unrestricted (tons/yr) | Limited Potential (tons/yr) |
|-------------------|--------------------------------|--------------------------------|-----------------------------|
|                   |                                |                                |                             |
| PM                | 2.11                           | 92.40                          | 9.24                        |
| PM <sub>10</sub>  | 1.88                           | 82.37                          | 8.24                        |
| PM <sub>2.5</sub> | 1.04                           | 45.60                          | 4.56                        |
| VOC               | 2.07                           | 9.05                           | 9.05                        |



## Sanimax - Fugitive Dust from Haul Roads

### Annual Throughputs:

|                    |              |
|--------------------|--------------|
| Feather Receiving  | 9,708 tons   |
| Poultry Receiving  | 62,522 tons  |
| Other Receiving    | 135,659 tons |
| Feather Loadout    | 3,578 tons   |
| Poultry Loadout    | 16,393 tons  |
| Other Loadout      | 29,297 tons  |
| Grease/Fat Loadout | 38,740 tons  |

### Vehicle Weights

|                              |           |
|------------------------------|-----------|
| Average Truck Weight (Empty) | 13 tons   |
| Average Truck Weight (Full)  | 40 tons   |
| Average Truck Capacity       | 27 tons   |
| Average Employee Vehicle     | 1.25 tons |

S = Average vehicle speed: 10 mph  
P = Number of "wet" days: 110 (AP-42 Figure 13.2.1-2)

### Annual Emission Calculation - Paved Roads (FS001 / FUG1)

#### Particle Size Multipliers (paved roads)<sup>[1]</sup>:

|                     |                |
|---------------------|----------------|
| k-PM                | 0.011 lb/VMT   |
| k-PM <sub>10</sub>  | 0.0022 lb/VMT  |
| k-PM <sub>2.5</sub> | 0.00054 lb/VMT |

#### Particulate Emission Factors<sup>[2]</sup>:

|                       | PM (lb/VMT) | PM <sub>10</sub> (lb/VMT) | PM <sub>2.5</sub> (lb/VMT) |
|-----------------------|-------------|---------------------------|----------------------------|
| Haul Trucks (Full)    | 0.28        | 0.06                      | 0.01                       |
| Haul Trucks (Empty)   | 0.09        | 0.02                      | 0.00                       |
| Haul Trucks (Average) | 0.18        | 0.04                      | 0.01                       |
| Employee Vehicles     | 0.01        | 0.00                      | 0.00                       |

sL = road surface silt loading<sup>[3]</sup>: 0.6 g/m<sup>2</sup>

| Activity                      | Modeled Segment | # of Vehicles | Distance (miles) | VMT total | lbs/yr |                  |                   | lbs/hr (average) |                  |                   | tons/yr |                  |                   |
|-------------------------------|-----------------|---------------|------------------|-----------|--------|------------------|-------------------|------------------|------------------|-------------------|---------|------------------|-------------------|
|                               |                 |               |                  |           | PM     | PM <sub>10</sub> | PM <sub>2.5</sub> | PM               | PM <sub>10</sub> | PM <sub>2.5</sub> | PM      | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Receiving                     |                 |               |                  |           |        |                  |                   |                  |                  |                   |         |                  |                   |
| Feather                       | HR1             | 360           | 0.34             | 122       | 34     | 6.73             | 1.65              | 0.004            | 0.001            | 0.000             | 0.017   | 0.003            | 0.001             |
| Poultry (new)                 | HR3             | 2,316         | 0.21             | 486       | 134    | 26.76            | 6.57              | 0.015            | 0.003            | 0.001             | 0.067   | 0.013            | 0.003             |
| Other                         | HR2             | 5,024         | 0.33             | 1,658     | 456    | 91.25            | 22.40             | 0.052            | 0.010            | 0.003             | 0.228   | 0.046            | 0.011             |
| Loadout                       |                 |               |                  |           |        |                  |                   |                  |                  |                   |         |                  |                   |
| Feather                       | HR4             | 133           | 0.28             | 37        | 7      | 1.37             | 0.34              | 0.001            | 0.000            | 0.000             | 0.003   | 0.001            | 0.000             |
| Poultry (new)                 | HR5             | 607           | 0.26             | 158       | 29     | 5.82             | 1.43              | 0.003            | 0.001            | 0.000             | 0.015   | 0.003            | 0.001             |
| Other                         | HR4             | 1,085         | 0.28             | 304       | 56     | 11.20            | 2.75              | 0.006            | 0.001            | 0.000             | 0.028   | 0.006            | 0.001             |
| Grease/Fat                    | HR4             | 1,435         | 0.28             | 402       | 74     | 14.81            | 3.63              | 0.008            | 0.002            | 0.000             | 0.037   | 0.007            | 0.002             |
| Employee Traffic              |                 |               |                  |           |        |                  |                   |                  |                  |                   |         |                  |                   |
| Employee Traffic (both ways)  | HR6             | 24,090        | 0.22             | 5,300     | 43     | 0.07             | 0.00              | 0.005            | 0.000            | 0.000             | 0.021   | 0.000            | 0.000             |
| Empty Trailer Traffic/Staging |                 |               |                  |           |        |                  |                   |                  |                  |                   |         |                  |                   |
| Feather & Other               | HR2             | 5,384         | 0.33             | 1,777     | 155    | 31.07            | 7.63              | 0.018            | 0.004            | 0.001             | 0.078   | 0.016            | 0.004             |
| Poultry (new)                 | HR3             | 2,316         | 0.21             | 486       | 43     | 8.50             | 2.09              | 0.005            | 0.001            | 0.000             | 0.021   | 0.004            | 0.001             |
| Total                         |                 |               |                  | 10,730    | 1,030  | 198              | 48                | 0.118            | 0.023            | 0.0055            | 0.515   | 0.099            | 0.024             |

<sup>[1]</sup> Particle size multipliers are taken from AP-42 Chapter 13.2.1 Paved Roads Table 13.2.1-1

<sup>[2]</sup> Particulate emission factors calculated from AP-42 Chapter 13.2.1 Paved Roads equation 2

<sup>[3]</sup> Silt loading value taken from AP-42 Chapter 13.2.1 Paved Roads Table 13.2.1-2 for ADT traffic <500

### Sanimax - Fugitive Dust from Haul Roads

#### Annual Throughputs:

|                    |              |
|--------------------|--------------|
| Feather Receiving  | 9,708 tons   |
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| Other Receiving    | 135,659 tons |
| Feather Loadout    | 3,578 tons   |
| Poultry Loadout    | 16,393 tons  |
| Other Loadout      | 29,297 tons  |
| Grease/Fat Loadout | 38,740 tons  |

#### Vehicle Weights

|                              |           |
|------------------------------|-----------|
| Average Truck Weight (Empty) | 13 tons   |
| Average Truck Weight (Full)  | 40 tons   |
| Average Truck Capacity       | 27 tons   |
| Average Employee Vehicle     | 1.25 tons |

S = Average vehicle speed: 10 mph  
P = Number of "wet" days: 110 (AP-42 Figure 13.2.1-2)

### Annual Emission Calculation - Unpaved Staging Area (FS002 / FUG2)

#### Particle Size Multipliers (unpaved roads)<sup>[4]</sup>:

|                     |             |
|---------------------|-------------|
| k-PM                | 4.9 lb/VMT  |
| k-PM <sub>10</sub>  | 1.5 lb/VMT  |
| k-PM <sub>2.5</sub> | 0.15 lb/VMT |

a-PM 0.7  
a-PM<sub>10</sub> / PM<sub>2.5</sub> 0.9  
b-PM / PM<sub>10</sub> / PM<sub>2.5</sub> 0.45  
s = surface material silt content<sup>[6]</sup> 4.3 %

#### Particulate Emission Factors<sup>[5]</sup>:

|                     | PM   | PM <sub>10</sub> | PM <sub>2.5</sub> |
|---------------------|------|------------------|-------------------|
| Haul Trucks (Empty) | 3.23 | 0.80             | 0.08              |

P = Number of "wet" days: 110 (AP-42 Figure 13.2.1-2)

| Activity              | # of Vehicles | Distance (miles) | VMT total | lbs/yr |                  |                   | lbs/hr (average) |                  |                   | tons/yr |                  |                   |
|-----------------------|---------------|------------------|-----------|--------|------------------|-------------------|------------------|------------------|-------------------|---------|------------------|-------------------|
|                       |               |                  |           | PM     | PM <sub>10</sub> | PM <sub>2.5</sub> | PM               | PM <sub>10</sub> | PM <sub>2.5</sub> | PM      | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Empty Trailer Staging |               |                  |           |        |                  |                   |                  |                  |                   |         |                  |                   |
| Feather & Other       | 5,384         | 0.02             | 108       | 348    | 87               | 9                 | 0.040            | 0.010            | 0.001             | 0.174   | 0.043            | 0.004             |
| Poultry (new)         | 2,316         | 0.02             | 46        | 150    | 37               | 4                 | 0.017            | 0.004            | 0.000             | 0.075   | 0.019            | 0.002             |
| Total                 |               |                  | 154       | 497    | 124              | 12                | 0.057            | 0.014            | 0.0014            | 0.249   | 0.062            | 0.006             |

<sup>[4]</sup> Particle size multipliers, constants and silt content taken from AP-42 Chapter 13.2.2 Unpaved Roads Tables 13.2.2-1 and 13.2.2-2

<sup>[5]</sup> Particulate emission factors calculated from AP-42 Chapter 13.2.2 Unpaved Roads equations 1a and 2

<sup>[6]</sup> Silt content value taken from AP-42 Chapter 13.2.2 Unpaved Roads Table 13.2.2-1 for the mean value of taconite mining and processing



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February 11, 2016

RE: Sanimax USA, LLC  
Final Revised Air Permit Application  
Facility ID: 03700070  
Tracking No.: 4268  
SEH No. 131141 32.00

Mr. Richard Cordes, PE  
Principal Engineer  
Minnesota Pollution Control Agency  
520 Lafayette Road N  
St. Paul, MN 55155-4194

Dear Mr. Cordes:

On behalf of Sanimax USA, LLC (Sanimax), Short Elliott Hendrickson Inc. (SEH®) submits this final revised State Air Permit application to incorporate several changes at the Sanimax facility. Sanimax is an animal, vegetable, and food processing waste recycling plant located at 505 Hardman Avenue South, South St. Paul, Dakota County, Minnesota. The facility operates under Air Emission Permit No. 03700070-006.

Through the major permit amendment process (application originally submitted in May 2013), Sanimax has proposed to replace Boiler No. 1 (EU001) with a new 98 million British thermal units per hour (MMBtu/hr) natural gas-fired boiler (EU023) at their facility. The new boiler will have No. 2 diesel fuel (distillate oil, which includes biodiesel<sup>1</sup>), propane, refined animal fats and vegetable oils (RAFVO), and glycerin as back-up fuels. Additionally, Sanimax requests to formally discontinue use of No. 6 fuel oil at the facility, remove the facility-wide SO<sub>2</sub> emission limit, expand the operating pressure drop ranges for their Venturi scrubbers, and update emission limits for several emission units. These proposed changes will allow Sanimax to operate under a State Permit instead of their current Part 70 (Title V) permit.

#### POTENTIAL TO EMIT SUMMARY

The facility-wide potential to emit (PTE) for criteria pollutants particulate matter (PM), PM less than 10 microns in diameter (PM<sub>10</sub>), PM less than 2.5 microns in diameter (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), volatile organic compounds (VOC), carbon dioxide equivalents (CO<sub>2</sub>e), and hazardous air pollutants (HAPs) is provided in Table 1 below. PTE for the fuel combustion units at Sanimax were updated based on worst-case fuel emissions and to include condensable PM.

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<sup>1</sup> Distillate oil, as defined in the federal Standards of Performance for Small Industrial, Commercial, and Institutional Steam Generating Units (40 CFR 60, Subpart Dc) and the National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers (40 CFR 63, Subpart JJJJJJ), includes biodiesel and biodiesel blends.

Additionally, VOC PTE for the PPF cooking and pressing processes (EU020, EU021) were updated (increased) under the conservative assumption that the Venturi scrubber does not provide VOC control.

Emission calculations (PDF and Excel versions) are included with this submittal.

**Table 1**  
**Facility PTE**

| PTE (tpy)                                                                                                                       | PM    | PM <sub>10</sub> | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>x</sub> | CO   | VOC  | CO <sub>2</sub> e | Total HAPs |
|---------------------------------------------------------------------------------------------------------------------------------|-------|------------------|-------------------|-----------------|-----------------|------|------|-------------------|------------|
| Current Facility PTE*                                                                                                           | 57.6  | 50.2             | 31.8              | 240             | 96.0            | 26.5 | 13.1 | 55,220            | 0.60       |
| Change in Emissions                                                                                                             | (7.7) | (10.6)           | (7.8)             | (175.6)         | (35.1)          | 17.0 | 11.5 | 39,814            | 0.38       |
| Proposed Facility PTE                                                                                                           | 49.9  | 39.6             | 24.0              | 64.4            | 60.9            | 43.5 | 24.6 | 95,034            | 0.98       |
| * Potential to emit from the existing facility, as presented in the current Total Facility Operating Permit (No. 03700070-006). |       |                  |                   |                 |                 |      |      |                   |            |

#### REQUESTED PERMIT AMENDMENTS

Sanimax requests that the following changes be made to Air Emission Permit No. 03700070-006. Additional information on each change is provided in the attached MPCA application forms and redlined permit pages.

##### Addition of New Boiler (EU023)

Table 2 below includes specifics regarding the new boiler (EU023) to be installed at the facility. The boiler will primarily fire natural gas, with the option to fire RAFVO, propane, No. 2 diesel (distillate oil), and glycerin.

**Table 2**  
**New Boiler – EU023**

| Emission Unit / Stack/Vent ID                                                                                                      | Description  | Firing Capacity, MMBtu/hr | Fuel Types                                          | Control Equipment                  |
|------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-----------------------------------------------------|------------------------------------|
| EU023 / SV020                                                                                                                      | Boiler No. 3 | 98                        | Natural Gas<br>(No. 2 diesel, propane for back-up)* | Low-NO <sub>x</sub> Burner (CE026) |
| *RAFVO and glycerin are also optional fuels, although emission testing must be conducted during the initial firing of these fuels. |              |                           |                                                     |                                    |

##### Removal of Boiler No. 1 (EU001), No. 6 Fuel Oil Usage, and SO<sub>2</sub> Facility-wide Emission Limit

Upon the installation and initial operation of the new boiler, Boiler No. 1 (EU001) will be removed. Along with EU001, the use of No. 6 (residual) fuel oil at the facility will be discontinued. Discontinuing the use of No. 6 fuel oil will significantly reduce the facility's PTE for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and NO<sub>x</sub>.

Sanimax also requests that the facility-wide SO<sub>2</sub> limit of 240 tpy and associated operating and recordkeeping requirements be removed from the permit. No. 2 diesel fuel will be limited to 500 parts per million (ppm) (0.05%) sulfur, and RAFVO and glycerin will contain up to 0.1% sulfur. The facility will keep

records of fuel sulfur content through supplier certifications or laboratory analysis reports of Sanimax-produced fuels. These changes will decrease potential SO<sub>2</sub> emissions to well below PSD major source thresholds such that the facility-wide SO<sub>2</sub> limit is no longer needed. These changes affect GP001, EU002, and EU006 in Table A of the permit.

#### RAFVO and Glycerin

Air Emission Permit No. 03700070-006 currently allows Sanimax to fire a variety of fuels in the combustion units. RAFVO, and glycerin are both produced at Sanimax facilities and are listed as optional fuels at the facility. These commodities are generally only fired when economically feasible. It is requested that unrestricted firing of RAFVO and glycerin be allowed after initial performance testing on the fuels to demonstrate compliance with proposed emission limits.

Emission test results conducted at another Sanimax facility were used to determine PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, VOC, and CO emission factors from RAFVO combustion. CO<sub>2</sub> emission factors for both rendered animal fat and vegetable oil were obtained from 40 CFR Part 98, Table C-1. AP-42 emission factors for fuel oil were used for other pollutants.

#### Scrubber Pressure Drops

Sanimax has also requested to expand the operating pressure drop ranges for their Venturi scrubbers (CE001, CE003, and CE012) from the current range of 4.0 to 6.0 inches of water column to a range of 3.5 to 7.0 inches of water column. This expanded range will allow the scrubbers to operate with higher water recirculation rates, leading to higher particulate removal, and will also allow the pressure drop ranges to account for fluctuations related to seasonal operating temperature and barometric pressure changes.

#### REGULATORY APPLICABILITY

##### Determination of Solid Wastes Used as Fuels

Rules found in 40 CFR Part 241, *Solid Wastes Used as Fuels or Ingredients in Combustion Units*, define which non-hazardous secondary materials are not solid wastes when combusted. Refined animal fats and glycerin, which are not specifically identified as fuels in other regulations, are allowed to be used as fuels because all of the following are true:

1. The refined animal fats will be processed to remove contaminants and improve the fuel characteristics of the materials, turning animal by-products into a non-waste fuel.
2. The glycerin will remain in the control of the generator (i.e., Sanimax).
3. The use of refined animal fats and glycerin as fuels meets the legitimacy criteria for fuels:
  - a. The refined animal fats and glycerin will be managed as valuable commodities prior to use,
  - b. The refined animal fats and glycerin have meaningful heat values, and
  - c. The refined animal fats and glycerin contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s).

The attached memo re: Use of Refined Animal Fats and Glycerin as Boiler Fuels provides additional details regarding these fuels and 40 CFR Part 241.

#### NESHAP Subpart JJJJJ

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Source Industrial, Commercial, and Institutional Boilers (40 CFR Part 63 Subpart JJJJJ) applies to the new and existing boilers at Sanimax. No emission limits apply to the boilers under NESHAP JJJJJ. Per 63.11225(c)(2)(ii) of NESHAP JJJJJ, Sanimax will keep records as to how the operations that produced the animal fats satisfy the definition of "processing" in 40 CFR 241.2, the overall control of the Sanimax-generated

glycerin, and how both of these materials meet the legitimacy criteria in 40 CFR 241.3(d)(1). Copies of NESHAP A and JJJJJJ highlighting portions of the rule applicable to the both the existing boilers and the proposed boiler are included in this submittal.

#### NSPS for Subpart Dc

The New Source Performance Standard (NSPS) for Small Industrial, Commercial, and Institutional Steam Generating Units constructed after June 9, 1989 with heat input capacities between 10 and 100 MMBtu/hr (40 CFR Part 60 Subpart Dc) applies to the new boiler at Sanimax. Sanimax will comply with the applicable reporting and recordkeeping provisions of NSPS Dc. To comply with sulfur limitation of the rule, Sanimax proposes to keep records of the sulfur content of all fuels fired in the form of fuel supplier certifications for purchased fuels and laboratory analyses for Sanimax-produced fuels. Sanimax will comply with applicable opacity limits. Copies of NSPS A and Dc highlighting portions of the rule applicable to the proposed boiler are included in this submittal.

#### DISPERSION MODELING

Page A-1 of the Sanimax Air Emission Permit No. 03700070-006 states: "For changes that require a minor, moderate, or major permit amendment and affect any modeled parameter or emission rate documented in Appendix II, a Remodeling Submittal requirement is triggered." An Equivalent or Better Dispersion Modeling Analysis for PM<sub>2.5</sub> emissions from the proposed project was submitted to MPCA on April 23, 2015 and approved on May 13, 2015.

#### CONCLUSION

We appreciate the work MPCA has done so far on this permitting effort and look forward to the issuance of the final State Permit soon. Please contact me at 651.490.2032 or [khillbrandt@sehinc.com](mailto:khillbrandt@sehinc.com) if you have any questions or need additional information.

Sincerely,

SHORT ELLIOTT HENDRICKSON INC.



Katie Hill Brandt, PE  
Environmental Engineer

Attachments: MPCA Air Permit Application Forms (Includes CD-01 Forms and Redlined Permit Pages)  
PTE Calculations (PDF and Excel versions)  
Highlighted NSPS Subparts A and Dc and NESHAP Subparts A and JJJJJJ  
Memo: Use of Refined Animal Fats and Glycerin as Boiler Fuels

c: Ben Bertram, Sanimax USA, LLC

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**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

# SCP-01: Submittal Cover Page

Permit Application/Notification/  
Determination Request Fee Submittal  
Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 7**

1a) AQ Facility ID number: 03700070 1b) Agency Interest ID number: \_\_\_\_\_

2) Facility name: Sanimax USA, LLC

3) Submittal is (choose from the following options and then complete the remainder of item 3 as directed):

- ☒ The final certified (or recertified) version of a previously-submitted permit application. **Complete Section 3A.**
- ☐ Additional or supplemental information requested by permit staff during the permit-writing process. **Complete Section 3A.**
- ☐ A request that the Minnesota Pollution Control Agency (MPCA) make an applicability determination. **Complete Section 3A.**
- ☐ An application for a new individual Part 70 or State permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3E.**
- ☐ An application for reissuance of an individual Part 70 or State permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3B.**
- ☐ An application for an amendment to an existing individual Part 70 or State permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3B.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3E.**
- ☐ An application for a registration permit, capped permit, or general permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3C.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3C.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3E.**
- ☐ An application for an administrative change to an existing registration, capped, or general permit – choose **one** of the following:
  - ☐ This is the original application or replacement for a denied application – **Complete Section 3C.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application – **Complete Section 3C.**
  - ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application – **Complete Section 3E.**
- ☐ A notification required under Minn. R. 7007.1150(C); Minn. R. 7007.1250, subp. 4; Minn. R. 7007.1350; Minn. R. 7007.1110, subp. 10, 11, or 11a; or Minn. R. 7007.1146, subp. 2(G). **Complete Section 3D.**
- ☐ A notification from a hot mix asphalt plant holding a registration permit of the intent to incorporate ground tear-off shingles and/or manufacturer scrap shingles in the hot mix asphalt. **Complete Section 3D.**



## Section 3A - Request for applicability determination, recertification of a previously-submitted permit application, or supplement to a previously-submitted permit application

Use this section only if your submittal is one of the following:

- The final version of a previously submitted permit application, incorporating changes negotiated through the permitting process, or
- Submittal of additional or supplemental information requested by permit staff during the permit-writing process, or
- A request for the MPCA to make an applicability determination.

For final versions and supplemental information, enter the "tracking number" which can be obtained from the MPCA permit staff working on the permit.

Check one of the boxes below. Do not complete Sections 3B, 3C, 3D, or 3E. Continue with item 4 of the form.

| Choose one of the following:                                                                                                | Quantity | Points | Total points |
|-----------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|
| <input checked="" type="checkbox"/> Recertification of a previously-submitted permit application – Tracking No: <u>4268</u> | NA       | NA     | NA           |
| <input type="checkbox"/> Supplement to a previously-submitted permit application – Tracking No: _____                       | NA       | NA     | NA           |
| <input type="checkbox"/> An Applicability Determination Request                                                             |          | x 10 = |              |

## Section 3B - Application for an individual Part 70 or State permit, reissuance of an individual Part 70 or State permit, or amendment of an individual Part 70 or State permit

Is this application replacing an application that was returned as incomplete (not an application that was denied)?

☐ No ☐ Yes Enter the Tracking Number of the incomplete application being replaced: \_\_\_\_\_.

Check as many of the boxes below as apply. If your submittal also includes notifications that do not require a permit application, also complete Section 3D. Then continue with item 4 of the form.

| Choose one of the following:                                                                                                                                                                                                                                               | Quantity | Points | Total points |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|
| <input type="checkbox"/> Application for an individual Part 70 permit                                                                                                                                                                                                      |          | x 75 = |              |
| <input type="checkbox"/> Application for an individual State permit                                                                                                                                                                                                        |          | x 50 = |              |
| <input type="checkbox"/> Application for reissuance of an expiring individual Part 70 or state permit                                                                                                                                                                      |          |        |              |
| Expiration date: _____ Application due date (180 days prior to expiration): _____<br>(mm/dd/yyyy) (mm/dd/yyyy)                                                                                                                                                             | NA       | NA     | NA           |
| <input type="checkbox"/> Application for a major amendment to an individual State or Part 70 permit<br><input type="checkbox"/> Includes reconstruction or modification of a New Source Performance Standards (NSPS)<br>Affected Facility not subject to New Source Review |          | x 25 = |              |
| <input type="checkbox"/> Application for a moderate amendment to an individual State or Part 70 permit                                                                                                                                                                     |          | x 15 = |              |
| <input type="checkbox"/> Application for a minor amendment to an individual State or Part 70 permit                                                                                                                                                                        |          | x 4 =  |              |
| <input type="checkbox"/> Application for an administrative amendment to an individual State or Part 70 permit                                                                                                                                                              |          | x 1 =  |              |

### Additional information (check all that apply):

- ☐ Submittal was preceded by pre-application work with the MPCA (for example: dispersion modeling or modeling protocol review, AERA review, environmental review). The tracking number associated with the preapplication work is: \_\_\_\_\_
- ☐ Permit will replace an existing permit of a different type (e.g., replacing a Capped Permit with an individual State permit, or replacing a Part 70 General permit with an individual Part 70 permit).
- ☐ Permit is for construction of a new facility.
- ☐ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an air emission permit.
- ☐ Project is subject to Prevention of Significant Deterioration (PSD) (40 CFR § 52.21)
- Send a complete copy of the application to U.S. Environmental Protection Agency (EPA) Region V (see instructions).
  - Contact EPA Region V to begin the Endangered Species Assessment process (see instructions).
- ☐ Permit is required because of installation or modification of a Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) and/or a Part 60 NSPS Affected Facility at a Stationary Source with Potential-to-Emit below all permit thresholds (Minn. R. 7007.0500, subp. 2.C.(1)).

## Section 3C - Application for a registration, capped, or general permit

Is this application replacing an application that was returned as incomplete (not an application that was denied)?

☐ No ☐ Yes Enter the tracking number of the incomplete application being replaced: \_\_\_\_\_.

Check as many of the boxes below as apply. Continue with item 4 of the form.

| Choose one of the following:                                                                                                                                                                              | Quantity | Points | Total Points |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|
| <input type="checkbox"/> Application for a registration permit<br><input type="checkbox"/> Option A <input type="checkbox"/> Option B <input type="checkbox"/> Option C <input type="checkbox"/> Option D |          | x 2 =  |              |
| <input type="checkbox"/> Application for a capped permit<br><input type="checkbox"/> Option 1 <input type="checkbox"/> Option 2                                                                           |          | x 4 =  |              |
| <input type="checkbox"/> Application for a Part 70 general permit<br><input type="checkbox"/> Manufacturing General Permit <input type="checkbox"/> Low Emitting Facility General Permit                  |          | x 4 =  |              |
| <input type="checkbox"/> Application for a State general permit<br><input type="checkbox"/> Nonmetallic Mineral Processing General Permit                                                                 |          | x 3 =  |              |
| <input type="checkbox"/> Application for an administrative change to an existing registration, capped, or general permit (e.g., change of facility ownership)                                             |          | x 1 =  |              |

### Additional information (check all that apply):

- ☐ Permit will replace an existing permit of a different type (e.g., replacing a registration permit with a capped permit; replacing an option B registration permit with an option D registration permit; etc.)
- ☐ Permit is required for construction of a new facility
- ☐ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an air emission permit.
- ☐ Permit is required because of a modification or change making the facility ineligible for its existing air emission permit.

## Section 3D - Notifications

If your submittal also includes a permit application, then also complete Section 3A, 3B, 3C, or 3e as applicable. Check all applicable boxes below, then continue with item 4 of the form.

- ☐ A Notification of Accumulated Insignificant Activities (Minn. R. 7007.1250, subp. 4)
- ☐ A Notification of Installation of Pollution Control Equipment (Minn. R. 7007.1150, item C)
- ☐ A Notification of Replacement of a Unit (Minn. R. 7007.1150, item C)
- ☐ A Notification of Replacement of Controls with Listed Controls (Minn. R. 7007.1150, item C)
- ☐ A Notification of Changes That Contravene a Permit Term (Minn. R. 7007.1350)
- ☐ A Notification of Applicability of a New NSPS (applies to Capped Permits) (Minn. R. 7007.1146, subp. 2(G))
- ☐ A Notification of Applicability of a New NSPS (applies to Registration Permits) (Minn. R. 7007.1110, subp. 10)
- ☐ A Notification of Changes (not Modifications) Causing a New Permit to be Needed (applies to Registration Permits) (Minn. R. 7007.1110, subp. 11)
- ☐ A Notification of a Regulatory Change Causing a New Permit to be Needed (applies to Registration Permits) (Minn. R. 7007.1110, subp. 11a)
- ☐ A Notification From a Hot Mix Asphalt Plant Including a Request to Incorporate Ground Tear-off Shingles and/or Manufacturer Scrap Shingles in the Hot Mix Asphalt (applies to Registration Permits) Minn. R. 7011.0913, subp. 3)

## Section 3E - Replacement for an incomplete application where the project scope is unchanged

Enter the Tracking Number of the incomplete application being replaced: \_\_\_\_\_.

Check one option under "i" and one option under "ii". Calculate the points' difference in "iii". Check all that apply under "iv." Then continue with item 4 of the form.

| i. Choose one of the following describing this application:           | Quantity | Points | Total Points |
|-----------------------------------------------------------------------|----------|--------|--------------|
| <input type="checkbox"/> Application for an individual Part 70 permit |          | x 75 = |              |
| <input type="checkbox"/> Application for an individual State permit   |          | x 50 = |              |

|                                                                                                                                                                                                                                                                         |                 |               |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|---------------------|
| <input type="checkbox"/> Application for a major amendment to an individual State or Part 70 permit<br><input type="checkbox"/> Includes reconstruction or modification of a New Source Performance Standards (NSPS) Affected Facility not subject to New Source Review |                 | x 25 =        |                     |
| <input type="checkbox"/> Application for a moderate amendment to an individual State or Part 70 permit                                                                                                                                                                  |                 | x 15 =        |                     |
| <input type="checkbox"/> Application for a minor amendment to an individual State or Part 70 permit                                                                                                                                                                     |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for an administrative amendment to an individual State or Part 70 permit                                                                                                                                                           |                 | x 1 =         |                     |
| <input type="checkbox"/> Application for a registration permit<br><input type="checkbox"/> Option A <input type="checkbox"/> Option B <input type="checkbox"/> Option C <input type="checkbox"/> Option D                                                               |                 | x 2 =         |                     |
| <input type="checkbox"/> Application for a Capped Permit <input type="checkbox"/> Option 1 <input type="checkbox"/> Option 2                                                                                                                                            |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for a Part 70 general permit<br><input type="checkbox"/> Manufacturing general permit <input type="checkbox"/> Low emitting facility general permit                                                                                |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for a State general permit<br><input type="checkbox"/> Nonmetallic mineral processing general permit                                                                                                                               |                 | x 3 =         |                     |
| <input type="checkbox"/> Application for an administrative change to an existing registration, capped, or general permit (e.g., change of facility ownership)                                                                                                           |                 | x 1 =         |                     |
| <b>ii. Choose one of the following describing the incomplete application being replaced:</b>                                                                                                                                                                            | <b>Quantity</b> | <b>Points</b> | <b>Total Points</b> |
| <input type="checkbox"/> Application for an individual Part 70 permit                                                                                                                                                                                                   |                 | x 75 =        |                     |
| <input type="checkbox"/> Application for an individual State permit                                                                                                                                                                                                     |                 | x 50 =        |                     |
| <input type="checkbox"/> Application for a major amendment to an individual State or Part 70 permit                                                                                                                                                                     |                 | x 25 =        |                     |
| <input type="checkbox"/> Application for a moderate amendment to an individual State or Part 70 permit                                                                                                                                                                  |                 | x 15 =        |                     |
| <input type="checkbox"/> Application for a minor amendment to an individual State or Part 70 permit                                                                                                                                                                     |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for an administrative amendment to an individual State or Part 70 permit                                                                                                                                                           |                 | x 1 =         |                     |
| <input type="checkbox"/> Application for a registration permit<br><input type="checkbox"/> Option A <input type="checkbox"/> Option B <input type="checkbox"/> Option C <input type="checkbox"/> Option D                                                               |                 | x 2 =         |                     |
| <input type="checkbox"/> Application for a capped permit <input type="checkbox"/> Option 1 <input type="checkbox"/> Option 2                                                                                                                                            |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for a Part 70 general permit<br><input type="checkbox"/> Manufacturing general permit <input type="checkbox"/> Low emitting facility general permit                                                                                |                 | x 4 =         |                     |
| <input type="checkbox"/> Application for a State general permit<br><input type="checkbox"/> Nonmetallic mineral processing general permit                                                                                                                               |                 | x 3 =         |                     |
| <input type="checkbox"/> Application for an administrative change to an existing registration, capped, or general permit (e.g., change of facility ownership)                                                                                                           |                 | x 1 =         |                     |
| <b>iii. (Points from part i: _____) – (Points from part ii: _____) = Total points for Section 3E. →</b><br><b>If the number is negative (e.g., the number from “ii” is larger than the number from “i”, enter “0”.</b>                                                  |                 |               |                     |
| <b>iv. Additional information (check all that apply):</b>                                                                                                                                                                                                               |                 |               |                     |
| <input type="checkbox"/> Submittal was preceded by pre-application work with the MPCA (for example: dispersion modeling or modeling protocol review, AERA review, environmental review). The tracking number associated with the preapplication work is: _____          |                 |               |                     |
| <input type="checkbox"/> Permit will replace an existing permit of a different type (e.g., replacing a capped permit with an individual State permit, or replacing a Part 70 general permit with an individual Part 70 permit)                                          |                 |               |                     |
| <input type="checkbox"/> Permit is for construction of a new facility.                                                                                                                                                                                                  |                 |               |                     |

- ☐ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an air emission permit.
- ☐ Project is subject to Prevention of Significant Deterioration (PSD) (40 CFR § 52.21)
- Send a complete copy of the application to U.S. Environmental Protection Agency (EPA) Region V (see instructions).
  - Contact EPA Region V to begin the Endangered Species Assessment and Historic Preservation Act processes (see instructions).
- ☐ Permit is required because of installation or modification of a Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) and/or a Part 60 NSPS Affected Facility at a Stationary Source with Potential-to-Emit below all permit thresholds (Minn. R. 7007.0500, subp. 2.C.(1)).

**4) Total points** ( "total points" from Section 3A, 3B, 3C, or 3E part iii)

0

**5) Total application fee**

0 x \$285 = \$ 0  
(total points from item 4) (fee amount)

The application fee amount is \$285 per point, payable to the MPCA. Send your payment ("fee amount") with your submittal. The fee is not refundable, per Minn. R. 7002.0016, subp. 1. There may be additional fees assessed during processing of your request, as required by Minn. R. ch. 7002.

**6a) Confidentiality statement:**

- ☒ This application does not contain material claimed to be confidential under Minn. Stat. §§ 13.37 subd. 1(b) and 116.075. Skip item 6b, go to item 7.
- ☐ This application contains material which is claimed to be confidential under Minn. Stat. §§ 13.37 subd. 1(b) and 116.075. Complete Item 6b. Your submittal must include both Confidential and Public versions of your application.

**Registration permit applicants may not claim any portion of their application as confidential. If applying for a registration permit or an administrative change to a registration permit, you must check the first box above ("This application does not contain.....").**

- ☐ Confidential copy of application attached ☐ Public copy of application attached

**6b) Confidentiality certification**

To certify data for the confidential use of the MPCA, a responsible official must read the following, certify to its truth by filling in the signature block on the following page, and provide the stated attachments.

- ☐ I certify that the enclosed permit application(s) and all attachments have been reviewed by me and do contain confidential material. I understand that only specific data can be considered confidential and not the entire application or permit. I certify that I have enclosed the following to comply with the proper procedure for confidential material:
- ☐ I have enclosed a statement identifying which data contained in my application I consider confidential, and I have explained why I believe the information qualifies for confidential (or non-public) treatment under Minnesota Statutes.
  - ☐ I have explained why the data for which I am seeking confidential treatment should not be considered "emissions data" which the MPCA is required to make available to the public under federal law.
  - ☐ I have enclosed an application containing all pertinent information to allow for completion and issuance of my permit. This document has been clearly marked "confidential".
  - ☐ I have enclosed a second copy of my application with the confidential data blacked out (not omitted or deleted entirely). It is evident from this copy that information was there, but that it is not for public review. This document has been clearly marked "public copy".

**Permittee responsible official:**

Mr./Ms. \_\_\_\_\_  
Title: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

**Co-Permittee responsible official (if applicable)**

Mr./Ms. \_\_\_\_\_  
Title: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

## 7) Submittal certification

I certify under penalty of law that the enclosed documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I also certify, in accordance with Minn. R. 7007.0500, subp. 2 (K)(2) and subp. 2 (K)(3), that I have reviewed the procedures implemented by my facility to maintain compliance and that those procedures are, to the best of my knowledge and belief, reasonable to maintain compliance with all applicable requirements, including those that will become applicable during the term of the permit.

I also certify, in accordance with Minn. R. 7007.1450, subp. 4(D), that if this application requests the use of the minor or moderate permit amendment procedures, the proposed change is not part of a larger project which, taken as a whole, would not qualify for treatment as a minor or moderate permit amendment.

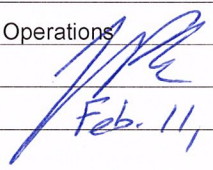
Choose one of the following:

- ☐ I certify that no construction is associated with the permit action sought by this permit application.
- ☒ I certify that my project includes construction, but construction has not yet been started except as allowed under Minn. R. 7007.1110, subp. 10 or Minn. R. 7007.1250, subp. 4, and will not begin until the permit is issued except as allowed under Minn. R. 7007.1110, subp. 12; Minn. R. 7007.1142, subp. 2; Minn. R. 7007.1150, item C; or Minn. R. 7007.1450, subp. 7.
- ☐ My project includes construction, and construction other than what is allowed under Minnesota Rules has been started

### Permittee responsible official:

Mr./Ms. Mr. John Primak

Title: Vice President Operations

Signature: 

Date: Feb. 11, 2016

### Co-Permittee responsible official (if applicable)

Mr./Ms. \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## 8) Package submittal

Applications, notifications, and/or requests that are submitted without authorized signature(s) (under submittal certification for all applications and under confidentiality certification if you are seeking confidential treatment of any information in the application); without required forms, and/or without the required application fee, will be returned. You must submit at least one SCP-01 that bears the original signature(s) (i.e., is not a photocopy of the signed signature page). Please make your check out to the Minnesota Pollution Control Agency. Send the complete application package and check to:

**Fiscal Services – 6<sup>th</sup> Floor  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, MN 55155-4194**

You may choose to submit your application as a "pdf" file on a compact disc (CD). If you choose this option, you must still include a paper copy of any form that requires a signature.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-GI-01**

**Facility Information for Permit Changes  
Air Quality Permit Program**

*Doc Type: Permit Application*

**Instructions on Page 3**

**1a)** AQ Facility ID No.: 03700070 **1b)** AQ File No.: 578

**2) Facility Name:** Sanimax USA, LLC

**3) Facility Location**

Street Address: 505 Hardman Avenue South

City: South St. Paul County: Dakota Zip code: 55705

**Note: If the facility is or will be located within the city limits of Minneapolis, attach a map showing the exact location.**

Mailing Address: 505 Hardman Avenue South

City: South St. Paul State: Dakota Zip code: 55705

**4) Corporate/Company Owner**

Name: Sanimax Holding Inc.

Mailing Address: 2099 Badgerland Avenue

City: Green Bay State: WI Zip code: 54303

Owner Classification: ☒ Private ☐ Local Govt. ☐ State Govt. ☐ Federal Govt. ☐ Utility

**5) Corporate/Company Operator (if different than owner)**

Name: Sanimax USA, LLC

Mailing Address: 2099 Badgerland Avenue

City: Green Bay State: WI Zip code: 54303

**6) Co-permittee (if applicable)**

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

**7) Legally responsible official for this permit/facility**

Mr/Ms: Mr. John Primak Phone: 514.648.6001 Ext. 3305

Title: Vice President Operations Fax: \_\_\_\_\_

At (check one): ☒ Owner Address ☐ Operator Address ☐ Emission Facility Address

☐ Other (specify): \_\_\_\_\_

**8) Contact person for this permit**

Mr/Ms: Mr. Ben Bertram Phone: 920.494.0418 Ext. 1230

Title: Project Manager Fax: \_\_\_\_\_

At (check one): ☐ Owner Address ☐ Operator Address ☒ Emission Facility Address

☐ Other (specify): \_\_\_\_\_

E-mail address: ben.bertram@sanimax.com

**9) All billings for annual fees should be addressed to:**

Mr/Ms: Mr. Ben Bertram Phone: 920.494.0418 Ext. 1230

Title: Project Manager Fax: \_\_\_\_\_

At (check one): ☐ Owner Address ☐ Operator Address ☒ Emission Facility Address

☐ Other (specify) \_\_\_\_\_

**10) Standard Industrial Classification (SIC) Code and description, and North American Industry Classification System (NAICS) code and description for the facility:**

Primary: 2077 / Recycling animal, vegetable, and food processing waste materials

Secondary (if applicable): \_\_\_\_\_ / \_\_\_\_\_

Tertiary (if applicable): \_\_\_\_\_ / \_\_\_\_\_

Primary NAICS code: \_\_\_\_\_ / \_\_\_\_\_

**11) Primary product produced (or activity performed) at the facility is:**

Recycling animal, vegetable, and food processing waste materials primarily used by the animal feed manufacturing and chemical industries

**12) Facility is:** ☒ Stationary ☐ Portable

**13) (reserved for future use)**

**14) Is environmental review required (either an Environmental Assessment Worksheet (EAW) or an Environmental Impact Statement (EIS)) for this facility?**

☒ No ☐ Yes -- you may also be required to perform a state air toxics review for your facility. Please call 1-800-657-3864 or locally 651-296-6300.

**15) Are you (or will you be, if this is a new facility) required to submit a Toxics Release Inventory (Form R) under SARA Title 313 for this facility? Contact the Minnesota Emergency Planning and Community Right-to-Know Act (EPCRA) Program for more information, at 651-201-7400.**

☒ Yes – Answer Question 15a ☐ No – Go on to Question 16

**15a) Are you required to submit a Pollution Prevention Plan Progress Report in accordance with Minn. Stat. § 115D.08?**

☐ No ☒ Yes, and the most recently required progress report has been submitted  
☐ Yes, but a progress report has not been submitted because: (fill in reason below)

\_\_\_\_\_  
\_\_\_\_\_

**16) Is this facility within 50 miles of another state or the Canadian border?:**

☒ Yes (specify which ones) WI ☐ No

**17) Are you proposing any alternative operating or emissions trading scenarios in this application? (see Minn. R. 7007.0800, subp. 10 and 11)**

☒ No ☐ Yes - attach a description of your proposal, including a statement on how the proposal will meet all applicable requirements (specifically, please address any applicable New Source Review requirements - see Form CH-04).

**18) Person preparing this permit application:**

Mr. / Ms. Ms. Katie Hill Brandt

Title: Environmental Engineer



## Instructions for Form CH-GI-01

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- 1a) AQ Facility ID No.** -- Fill in your Air Quality (AQ) Facility Identification (ID) Number (No.) is the first eight digits of the permit number for all permits issued under the Title V operating permit program. If your facility has never been issued a permit under this program, leave this line blank.
- 1b) AQ File No.** -- Your AQ File Number is the first group of characters in an Air Emission Facility Permit which was issued before the Title V operating permit. For example, given permit number 1899AB-93-OT-1, the AQ File number would be 1899AB. You may also find this information in the cc: portion of correspondence received from the Minnesota Pollution Control Agency (MPCA).
- 2) Facility Name** -- Enter your facility name as it will appear on your permit.
- 3) Facility Location** -- Fill in the facility's street address and the city and county where the facility is located. Also indicate the facility's mailing address. You may use a P.O. Box number for the mailing address, but not for the street address. If the facility is or will be located within the limits of the city of Minneapolis, include a map showing the exact location of the facility.
- 4) Corporate/Company Owner** -- Fill in the owner name and mailing address. The owner receives the air emission permit from the MPCA. The owner is the "Permittee". Check the one "owner classification box" that most closely describes your facility.
- 5) Corporate/Company Operator (if different from owner)** -- The operator runs the facility on a day-to-day basis. If a management company operates the facility, its name goes here. The operator is also a "Permittee". Fill in if applicable; if not, fill in "N/A".
- 6) Co-permittee (if applicable)** -- If the emission facility has more than one owner, for example a partnership, then the second owner's name and address go here. Another example is two facilities, owned separately, where one facility exists to support the other; both facilities are subject to one permit and the two owners are considered co-permittees.
- 7) Legally Responsible Official** -- Fill in the name, title, phone number, and fax number (if applicable) of the Legally Responsible Official. For the purpose of Form CH-GI-01, the Legally Responsible Official must be a person meeting the criteria for signing the application (defined in Minn. R. 7007.0100, subp. 21), which is the person who performs policy or decision making functions for the company. (A delegate may be allowed in some cases. Please refer to the rule section listed above.) Indicate which address applies to this person by checking the appropriate box.
- 8) Contact person for this permit** -- Fill in the name, title, phone number and fax number (if applicable) of the individual to whom the permit and other permitting correspondence should be sent. Indicate which address applies to this person by checking the appropriate box. Include the e-mail address at which the contact person can be reached.
- 9) All billings and annual fees should be addressed to** -- Fill in the name, title, phone number and fax number (if applicable) of the individual to whom the annual emissions inventory and emissions fee billing should be sent. Indicate which address applies to this person by checking the appropriate box.
- 10) Standard Industrial Classification (SIC) Code and description, and North American Industry Classification System (NAICS) Code and description for the facility** -- Fill in the primary (and secondary and tertiary if applicable) 4-digit SIC code(s) for the facility. A single stationary source may have more than one SIC code. For example, if a facility makes cardboard boxes, the facility would have a primary SIC code of 2653. If the facility also prints on some of its boxes, it would have a secondary SIC code of 2752.
- Additional SIC information may be obtained from libraries, accounting firms or from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 (order number PB 87-1000012).
- Fill in the primary six digit NAICS Code and description for the facility. Additional information may be obtained at <http://www.naics.com/> or <http://www.census.gov/epcd/www/naics.html>.
- 11) Primary product produced (or activity performed) at the facility is** -- Indicate the primary product or activity of your business.
- 12) Facility is (stationary or portable)** -- Indicate whether the facility is a stationary or a portable source. A portable facility is one that operates and moves from site to site. Examples of portable facilities are some asphalt plants and sand and gravel plants.
- 13) (Reserved for future use) 14) Is an environmental review required [either an Environmental Assessment Worksheet (EAW) or an Environmental Impact Statement (EIS)] as a result of the proposed changes ?** -- You must complete all the other applicable forms in this package before you can answer this question. Environmental review is sometimes required prior to construction or modification of a facility. Check the MPCA's Environmental Review Web page at [http://www.pca.state.mn.us/programs/envr\\_p.html](http://www.pca.state.mn.us/programs/envr_p.html), or call the Minnesota Environmental Quality Board at 651-201-2476 for more information. Put a check in the appropriate box of the application form.





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-15**

**SIP Changes and Permits  
Air Quality Permit Program**

*Doc Type: Permit Application*

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578  
2) Facility Name: Sanimax USA, LLC

**Section I**

I.1 Does your facility have source specific State Implementation Plan (SIP) conditions contained in a Part 70 permit or a federally enforceable state operating permit **or** has your facility been issued an Administrative Order (Order) to ensure compliance with a national ambient air quality standard (NAAQS)? (This would include permit conditions labeled "Title I condition: SIP for [pollutant] NAAQS"). If your facility is listed in Table 1 below, you have source specific SIP conditions.

☐ Yes. Check all applicable pollutants and continue with Section II.

- ☐ Sulfur Dioxide (SO<sub>2</sub>)
- ☐ Particulate matter less than 10 microns (PM<sub>10</sub>)
- ☐ Lead

☒ No. **Stop here**, and submit this form with your application for a permit amendment or operating permit reissuance.

**Section II**

II.1 Where are the SIP conditions that apply to your facility?

- ☐ In the current operating permit
- ☐ In the Order
- ☐ In both the current operating permit and the Order

II.2 This permit application is for

- ☐ Reissuance of the operating permit
- ☐ An amendment to the current operating permit

Whether you are proposing changes through an application for a facility modification, or if you are submitting a reissuance application and there have been changes at your facility that are not included in the current operating permit or the Order, complete the rest of this form considering those changes as the 'proposed change.' If your facility is subject to the Order, Minnesota Pollution Control Agency (MPCA) will initiate a SIP revision to transfer the Title I conditions from the Order to the Permit.

II.3 Does the proposed change involve equipment or operating parameters that are subject to a Title I SIP condition in your permit or a requirement from your Order?

- ☐ Yes
- ☐ No

II.4 Does the proposed change add an emission unit(s) or stack/vent that will emit the criteria pollutant(s) identified in Section I?

- ☐ Yes
- ☐ No

II.5 Does the proposed change increase the emission rate of the criteria pollutant(s) at any of the existing emission points (emission unit, control equipment or stack/vent)?

- ☐ Yes
- ☐ No

II.6 Does the proposed change increase the overall emission rate of that criteria pollutant at the facility?

- ☐ Yes
- ☐ No

## Section III

Review the SIP modeling parameters for your facility. These are usually found in an appendix to your permit or in your Order. For the proposed change at your facility, check all that apply:

- ☐ Addition of new emission point(s) for the criteria pollutant
- ☐ Removal of existing emission point(s) for the criteria pollutant
- ☐ Change in one or more modeled stack/vent heights or diameter
  - ☐ Increase in stack height
  - ☐ Decrease in stack height
  - ☐ Increase in stack diameter
  - ☐ Decrease in stack diameter
- ☐ Change in modeled air flow rate(s)
  - ☐ Increase in air flow rate(s)
  - ☐ Decrease in air flow rate(s)
- ☐ Change in one or more modeled emission rates
  - ☐ Increase in emission rate(s)
  - ☐ Decrease in emission rate(s)
- ☐ Change in location of one or more emission points
- ☐ Change in exit point temperature
  - ☐ Increase in temperature
  - ☐ Decrease in temperature
- ☐ Change in building locations or dimensions
- ☐ Other \_\_\_\_\_
- ☐ No change to current modeling parameters.

If there are any changes to the modeling parameters, you will need to demonstrate that the plume dispersion characteristics of the criteria pollutant will be equivalent to or better than the dispersion characteristics modeled using the parameters included as noted in the appendix of your permit or in your Order. In many cases you will need to remodel to show attainment with the NAAQS. However, in some cases you may be able to provide a written justification for improved dispersion characteristics.

If you will need to do modeling, it is recommended that you check the MPCA website or contact MPCA staff for guidance on current SIP modeling. SIP modeling requirements may be different than modeling for other programs and may have changed since previous modeling was done for your facility. See the MPCA's on-line SIP and modeling information at <http://www.pca.state.mn.us/veiz4a6> and <http://www.pca.state.mn.us/nwqh421> for current contact information.

## Section IV

### Will the proposed change require a SIP revision?

In general, a SIP revision is not required if you are making a change to the facility that does not increase, from any emission point, the emission rate of the criteria pollutant or alter equipment or parameters used as the basis for modeling of the criteria pollutant.

If you answered "Yes" to any of the questions in Section II or have identified changes to the modeling parameters for your facility in Section III, you will likely need a SIP revision for your project. If a SIP revision is required for a modification amendment, you must submit a **major** amendment application. If the proposed change includes an increase in emissions of the criteria pollutant or if it is new construction, the current Title I SIP conditions in your permit or the conditions in your Order for your facility must be followed until the SIP revision is approved by U.S. Environmental Protection Agency (EPA). If the proposed change will reduce emissions or will provide better modeled dispersion characteristics that change may proceed with MPCA and EPA approval.

When a SIP revision is part of your permit reissuance or amendment, approval of the reissuance or modification application will include more steps and take more time than the general process for a permit issuance. The SIP revision includes review and approval of the permit application by MPCA, including public notice of the permit. The SIP revision requires a public notice (which may occur concurrently with the permit notice of the draft/proposed permit); EPA generally does a preliminary review of the SIP revision at this time. There is an opportunity for interested parties to request a public meeting during the public notice period. After MPCA's public notice period ends for the draft/proposed permit, MPCA submits the SIP revision to EPA for a formal review and approval. Final approval of the SIP revision occurs when EPA publishes the revision as a final rule in the federal register.

**Table 1 Facilities with Source Specific SIP Conditions**

| Area                                        | Pollutant        | Facility                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eagan                                       | Lead             | Gopher Resources Corporation                                                                                                                                                                                                                                                                                              |
| Rochester                                   | PM <sub>10</sub> | Rochester Public Utilities <ul style="list-style-type: none"> <li>▪ Silver Lake</li> </ul>                                                                                                                                                                                                                                |
|                                             | SO <sub>2</sub>  | Rochester Public Utilities <ul style="list-style-type: none"> <li>▪ Cascade Creek</li> <li>▪ Silver Lake</li> </ul> Associated Milk Producers - Rochester<br>Mayo – Franklin Heating Station<br>IBM - Rochester<br>Olmsted Waste to Energy<br>Mayo – St. Mary's Hospital                                                  |
| Twin Cities 7-County Area                   | SO <sub>2</sub>  | Federal Cartridge Company-Anoka<br>Hoffman Enclosures Inc.<br>Xcel Energy <ul style="list-style-type: none"> <li>▪ Inver Hills Generating Plant</li> <li>▪ Riverside Generating Plant</li> </ul> GAF Materials Corporation<br>NRG - Minneapolis Energy Center Minneapolis LLC                                             |
| Rosemount/Pine Bend                         | SO <sub>2</sub>  | Flint Hills Resources Pine Bend Refinery                                                                                                                                                                                                                                                                                  |
| St. Paul Park/Ashland                       | SO <sub>2</sub>  | St. Paul Park Refining Co. LLC                                                                                                                                                                                                                                                                                            |
| St. Paul<br>(Childs Road and Red Rock Road) | PM <sub>10</sub> | Aggregate Industries, Yard A<br>Cenex Harvest States Coop- Elevator 2<br>Commercial Asphalt, Inc. Plant 905<br>Gerdau Ameristeel US Inc. – St. Paul Mill<br>Great Western Dock and Terminal<br>Lafarge North America (Red Rock and Childs Road Terminals)<br>Met Council Wastewater Treatment Plant<br>St. Paul Terminals |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-00**

**Project Screening  
Air Quality Permit Program**

*Doc Type: Permit Application*

AQ Facility ID No.: 03700070 AQ File No: 578

Facility Name: Sanimax USA, LLC

**Instructions:** Fill out this form last, after you've determined the type of permit you need.

Check **all** applicable boxes on this form that describe your proposed project and your facility.

**Applicable Analyses:**

- ☐ My project requires an Environmental Assessment Worksheet.  
Submitted to (who?): \_\_\_\_\_ on (date mm/dd/yyyy): \_\_\_\_\_
- ☐ My project requires an Environmental Impact Statement.  
Submitted to (who?): \_\_\_\_\_ on (date mm/dd/yyyy): \_\_\_\_\_
- ☐ My project requires a Prevention of Significant Deterioration (PSD) permit, utilizes the Plant-wide Applicability Limit requirements of 40 CFR § 52.21, and/or involves a Best Available Control Technology (BACT) Analysis (either a new analysis or revisions to previous permit conditions).
- ☐ My project involves a case-by-case Maximum Achievable Control Technology (MACT) determination under section 112(g)(2)(B) of the Clean Air Act Amendments of 1990 as described on form CH-07.
- ☐ My project involves a site-specific alternative monitoring request under 40 CFR § 60.13(i) or 40 CFR § 63.8(f).
- ☐ My project involves changes to limits or requirements that are identified as State Implementation Plan (SIP) requirements in my permit or Administrative Order. (Use Form CH-15 to determine this.)
- ☒ My project involves ambient air dispersion modeling for criteria pollutants.  
Modeling protocol was approved on (date mm/dd/yyyy): 5/13/2015  
Modeling results submitted to (who?): Jim Sullivan -- EBD Modeling Analysis on (date mm/dd/yyyy): 04/23/2015
- ☒ Modeling follows protocol exactly ☐ Modeling mostly follows protocol but with minor changes
- ☐ My project involves an Air Emissions Risk Analysis (AERA).  
Submitted to (who?): \_\_\_\_\_ on (date mm/dd/yyyy): \_\_\_\_\_
- ☐ My project requires at least one other media permit in addition to an air permit (list permits: e.g., National Pollutant Discharge Elimination System [NPDES] permit).  
\_\_\_\_\_  
Application submitted to (who?): \_\_\_\_\_ on (date mm/dd/yyyy): \_\_\_\_\_
- ☐ None of the above

**Industry Sector:**

- ☐ Petroleum refining
- ☐ Pulp and/or paper mill
- ☐ Composite wood products (e.g., OSB)
- ☐ Metallic mining
- ☐ Non-beverage ethanol production
- ☐ Waste combustor
- ☐ Electric utility
- ☒ None of the above



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-01**

**Change Description  
Air Quality Permit Program**

*Doc Type: Permit Application*

**Instructions on Page 2**

**Instructions:** Provide below a description of each physical and operational change, or proposed change to existing permit conditions, included in this application. This includes addition of new units, removal or replacement of existing units, or changes which may result in debottlenecking of emission units. Use Form CH-02 to determine if a permit amendment is required for your proposed change or modification.

**1a)** AQ Facility ID No.: 03700070 **1b)** AQ File No.: 578

**2)** Facility Name: Sanimax USA, LLC

**3)** Does your project involve construction or a physical or operational change to your facility?

- ☐ No. Go to question 5  
☒ Construction or physical change.  
☐ Operational change.

**4)** Does your project involve the addition or modification of a non-emergency generator?

- ☒ No.  
☐ Yes. You must conduct screening modeling for the generator or group of generators. See instructions.

**5)** Do you need your permit issued by a certain date?

- ☐ No.  
☒ Yes. Date: July 2015

Reason: The existing Nebraska boiler is nearing the end of its useful life. A replacement boiler must be installed before the Nebraska boiler needs to be retired.

**6)** Complete and attach Form CD-01 to specify which applicable requirements need to be added to or deleted from your permit unless the application is for a change in ownership, a change in facility name, or an extension of a deadline by no more than 120 days. The deadline must be one which Minnesota Pollution Control Agency (MPCA) has authority to extend. If the application is only for a change in ownership, a change in facility name, or an extension of a deadline by no more than 120 days, Form CD-01 does not need to be included. Instead, include this information in the description below.

**7)** Description of proposed project, including all physical and/or operational changes:

Sanimax USA, LLC (Sanimax) has submitted a major air permit modification application for the installation of a new 98 million British thermal unit per hour (MMBtu/hr) boiler to replace the existing Boiler #1 at the facility. The new boiler will fire natural gas with No. 2 fuel oil, propane, RAFVO, and glycerin as back-up fuels. In addition to the new boiler, Sanimax also requests to discontinue use of No. 6 fuel oil at the facility, remove the facility-wide SO<sub>2</sub> emission limit, expand the operating pressure drop ranges for their Venturi scrubbers, and update emission limits for three emission units.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-02**

**Action Type Determination  
Air Quality Permit Program**

*Doc Type: Permit Application*

**1a)** AQ Facility ID No.: 03700070 **1b)** Agency Interest ID No.: \_\_\_\_\_

**2)** Facility Name: Sanimax USA, LLC

Answer the questions on this form, referring to and completing the additional forms as directed, to determine if a permit or amendment is required (and if so what type), or if a notification is required.

- 3.** Does the change consist only of a change in facility ownership or operational control, facility ownership name, or facility name?
- ☒ No. Go to question 4.
- ☐ Yes. Complete Form CH-17 for an administrative change requiring an administrative amendment; proceed to question 12 of this form.
- 4.** Does the change consist only of the extension of a deadline by no more than 120 days? The deadline must be one which Minnesota Pollution Control Agency (MPCA) has authority to extend, or the answer to this question must be "no."
- ☒ No. Go to question 5.
- ☐ Yes. Make a copy of the permit page showing the deadline, and mark it up to show the desired extension; include it and Form CH-08 in your submittal. Proceed to question 12 of this form.
- 5.** Does the proposed change or modification require a major amendment? To answer this question, use Form CH-03 and all forms referenced therein. Include these forms in your submittal, unless otherwise noted on Form CH-12 or CH-09, if applicable.
- ☐ Yes. The proposed change consists only of amending existing permit requirements related to **monitoring, reporting, or recordkeeping** as shown by item 2 on Form CH-03. Go to question 12.
- ☒ Yes. The proposed change is a major amendment as indicated by one or more questions for items 3 through 9 on Form CH-03. Go to question 10.
- ☐ No. Go to question 6.
- 6.** Does the entire proposed change or modification consist **only** of insignificant activities described in Minn. R. 7007.1300, subparts 2 and/or 3, or conditionally insignificant activities listed in Minn. R. 7008.4100 and/or Minn. R. 7008.4110?
- ☐ Yes. The proposed change qualifies as an insignificant modification under Minn. R. 7007.1250, subp. 1.A. No permit amendment is needed to make the change, and you are done with this form. If the modification triggers new monitoring, record keeping, or reporting requirements under applicable requirements or Minn. R. 7007.0100 to 7007.1850, then you must initiate an administrative amendment under Minn. R. 7007.1400 to include the new requirements no more than 30 days after making the modification. If the proposed change also meets the conditions of Minn. R. 7007.1250, subp. 4, then you must notify the MPCA using Form CH-12.
- ☐ No. Part of the project is not one of the listed insignificant activities listed in Minn. R. 7007.1300, subp. 2 and/or 3, Minn. R. 7008.4100, or Minn. R. 7008.4110. Go to question 7.
- 7.** Can the change be done through an administrative amendment? Use Form CH-08 to determine Yes or No.
- ☐ Yes. Include Form CH-08 in your application. Proceed to question 10.
- ☐ No. Go to question 8.
- 8.** Can the change be made through the "contravening permit terms" provision? Use Form CH-09 to determine Yes or No.
- ☐ Yes. Include Form CH-09 in your submittal. Proceed to question 12.
- ☐ No. Go to question 9.
- 9.** Is a minor or moderate amendment needed? Complete Form CH-10 to determine Yes or No.
- ☐ Yes. Include Form CH-10 in your submittal. Go to question 10.
- ☐ No. Complete Form CH-12 to determine what notification or recordkeeping requirements apply. Proceed to question 12.

- 10.** Complete Form CH-11 to determine your status with regard to crossing permit thresholds, and indicate that status below.
- ☒ This change can be made through the permit amendment provisions of Minn. R. 7007.1450 or 7007.1500. Include Form CH-11 in your submittal. If you are applying for an administrative amendment, proceed to question 12. Otherwise, go to question 11.
- ☐ This change requires issuance of a Title V or State operating permit. Submit a completed Total Facility Application. You are done with this form.
- 11.** Complete Form CH-13 to determine what state rules apply to the equipment you are adding or the changes you are proposing, and include Form CH-13 in your submittal. Then proceed to question 12.
- 12.** In addition to this form and any forms you were instructed herein to include in your submittal, complete and submit Form CH-14 and, any other forms or information as directed on Form CH-14.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

# CH-14

## Permit Notification and Amendment Application Requirements Air Quality Permit Program

*Doc Type: Permit Application*

### Instructions on Page 4

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

- 3) Minn. R. 7007.0600 describes what a permit application must include. The items in the following list constitute an administratively complete application, but do not necessarily mean that the application is technically complete for the purpose of taking final permit action. Please complete the following to verify that you have included all the indicated forms and information.

| Included                            | Not included                        | Form/Requirement                                                                              | When required                                                                                           |
|-------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | SCP-01 Submittal Cover Page with original signature                                           | Always                                                                                                  |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | CH-GI-01 Facility Information                                                                 | Always, except when using Form CH-17 for an administrative change requiring an administrative amendment |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | CH-15 SIP Changes and Permits                                                                 | Always, except when using Form CH-17 for an administrative change requiring an administrative amendment |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | CH-00 Project Screening                                                                       | Always, except when using Form CH-17 for an administrative change requiring an administrative amendment |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | CH-01 Change Description                                                                      | Always                                                                                                  |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | CH-02 Action Type Determination                                                               | Always                                                                                                  |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | CH-14 Permit Notification and Amendment Application Requirements                              | Always                                                                                                  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CH-03 Major Permit Amendment Determination                                                    | When indicated on CH-02, CH-12, or CH-09                                                                |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CH-04 Determination of New Source Review Status                                               | As directed on CH-03                                                                                    |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CH-04a Determination of Increases at Major Sources                                            | As directed on Form CH-04                                                                               |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CH-04b Determination of Increases at Minor Sources                                            | As directed on Form CH-04                                                                               |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CH-04c Determination of Greenhouse Gas Status Under New Source Review                         | As directed on CH-03                                                                                    |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CH-04d Calculating the Net Emissions Increase Under New Source Review                         | As directed on Form CH-04a                                                                              |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CH-04e Required Elements for Prevention of Significant Deterioration (PSD) Permit Application | As directed on Form CH-04b or CH-04d                                                                    |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | BACT analysis                                                                                 | When the proposed change or modification is major under NSR                                             |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CH-05 Applicability of New Source Performance Standards (NSPS)                                | As directed on CH-03                                                                                    |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Highlighted copy of applicable subpart(s) of 40 CFR Part 60, including Subpart A              | When so indicated on CH-05                                                                              |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CH-06 Applicability of Part 61 NESHAP                                                         | As directed on CH-03                                                                                    |



| Included                            | Not included                        | Form/Requirement                                                                                                                                                                                                                                                                                                                                    | When required                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Highlighted copy of applicable subpart(s) of 40 CFR Part 61, including Subpart A                                                                                                                                                                                                                                                                    | When so indicated on CH-06                                                                                                                                                                                                                                                                                                                                           |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CH-07 Applicability of Part 63 NESHAP                                                                                                                                                                                                                                                                                                               | As directed on CH-03                                                                                                                                                                                                                                                                                                                                                 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Highlighted copy of applicable subpart(s) of 40 CFR Part 63, including Subpart A                                                                                                                                                                                                                                                                    | When so indicated on CH-07 or CH-08                                                                                                                                                                                                                                                                                                                                  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CH-11 Crossing Permit Thresholds                                                                                                                                                                                                                                                                                                                    | When indicated on CH-02. Make sure your proposed change qualifies for amendment of your existing permit, or as an I/O permit under Minn. R. 7007.0750, subpart 5.                                                                                                                                                                                                    |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CH-13 Applicability of State Rules                                                                                                                                                                                                                                                                                                                  | When indicated on CH-02                                                                                                                                                                                                                                                                                                                                              |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CD-01 Compliance Plan                                                                                                                                                                                                                                                                                                                               | For all applications for a major, moderate, or minor amendment, or when directed to on CH-01 for administrative amendments, or when indicated on CH-12.                                                                                                                                                                                                              |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | GI-07 Facility Emissions Summary                                                                                                                                                                                                                                                                                                                    | For all amendment applications, except when there are no emission changes, or when using the GI-07 Spreadsheet in place of Form GI-07                                                                                                                                                                                                                                |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | GI-07 Spreadsheet - Facility Emissions Summary                                                                                                                                                                                                                                                                                                      | When using the GI-07 Spreadsheet in place of Form GI-07                                                                                                                                                                                                                                                                                                              |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Editable electronic spreadsheet containing all calculations                                                                                                                                                                                                                                                                                         | Whenever GI-07 or CH-04c is required. If submitting the application electronically ("pdf" on a CD), you must include the editable spreadsheet(s) on the CD. If submitting the application on paper, you must also include a CD of the editable electronic spreadsheet(s) with the application.                                                                       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Emission calculation printouts (if submitting application electronically as a "pdf" document then the emission calculations must be a part of the the pdf document; if submitting a paper copy of the application, then the emission calculations must be printed on paper as part of the application. Example calculations must also be included.) | Whenever GI-07 or CH-04c is required.                                                                                                                                                                                                                                                                                                                                |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | HG-01 Mercury Releases to Ambient Air                                                                                                                                                                                                                                                                                                               | If the permit will authorize an increase in mercury emissions (construction of a new facility that will emit mercury, or modification of an existing facility resulting in additional mercury emissions), AND the potential mercury emissions from the entire facility already are or will be (after the proposed change) <u>three (3) or more pounds per year</u> , |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | GI-09H Requirements: CAM                                                                                                                                                                                                                                                                                                                            | When adding or changing control equipment or controlled emission units at a Part 70 source                                                                                                                                                                                                                                                                           |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CAM Plan                                                                                                                                                                                                                                                                                                                                            | When indicated on GI-09H                                                                                                                                                                                                                                                                                                                                             |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | EMS-00 EMS Permit Qualification                                                                                                                                                                                                                                                                                                                     | When proposing to incorporate Environmental Management System (EMS) provisions                                                                                                                                                                                                                                                                                       |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CH-10 Applicability of Minor or Moderate Amendment Process                                                                                                                                                                                                                                                                                          | When applying for a moderate or minor amendment                                                                                                                                                                                                                                                                                                                      |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CH-08 Administrative Amendment Determination                                                                                                                                                                                                                                                                                                        | When applying for an administrative amendment other than for a change in facility name, ownership, or ownership name                                                                                                                                                                                                                                                 |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CH-17 Individual Permit Administrative Changes                                                                                                                                                                                                                                                                                                      | When applying only for a change in facility name, ownership, or ownership name                                                                                                                                                                                                                                                                                       |

| Included                            | Not included                        | Form/Requirement                                                                                                                                                                             | When required                                                                                                                                                                             |
|-------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CH-09 Contravening Permit Terms                                                                                                                                                              | When proposing contravening permit terms                                                                                                                                                  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CH-12 Written Notification Form                                                                                                                                                              | When proposing changes that do not require a permit amendment, other than those covered by contravening permit terms                                                                      |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | IA-01 Insignificant Activities List                                                                                                                                                          | When the proposed change or modification includes changes to insignificant activities                                                                                                     |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | GI-02 Process Flow Diagram                                                                                                                                                                   | When the proposed change or modification includes changes to the process flow, including removing or adding new emission units, control devices, stacks/vents, tanks, or fugitive sources |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Separate sheet showing revised process flow                                                                                                                                                  | When the process flow diagram is not drawn directly on Form GI-02                                                                                                                         |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | GI-03 Facility and Stack/Vent Diagram                                                                                                                                                        | When proposed change or modification includes changes to the stack/vent diagram, including removing or relocating existing stack/vents, or adding new stack/vents                         |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Separate sheet showing revised stack/vent diagram                                                                                                                                            | When the stack/vent diagram is not drawn directly on Form GI-03                                                                                                                           |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | GI-04 Stack/Vent Information                                                                                                                                                                 | When adding or changing stack/vents                                                                                                                                                       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | GI-05A Pollution Control Equipment Information                                                                                                                                               | When adding or changing control equipment                                                                                                                                                 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | CD-05 Compliance Plan for Control Equipment (or marked-up permit page(s) for a specific control device when only making changes to operating parameter values of existing control equipment) | When adding or changing control equipment                                                                                                                                                 |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | HE-01 Hood Evaluation                                                                                                                                                                        | When adding or changing control equipment that does not collect through a total enclosure                                                                                                 |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | CR-02 Hood Certification                                                                                                                                                                     | When adding or changing control equipment that does not collect through a total enclosure                                                                                                 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | GI-05B Emission Unit Information                                                                                                                                                             | When adding, replacing, or changing emission units, or adding or replacing a control device controlling an emission unit                                                                  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | GI-05C Tank Information                                                                                                                                                                      | When adding, replacing, or changing storage tanks, or adding or replacing a control device controlling a tank                                                                             |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | GI-05D Fugitive Emission Source Information                                                                                                                                                  | When adding, replacing, or changing fugitive sources, or adding or replacing a control device controlling a fugitive source                                                               |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | GI-05F Emission Source Associations                                                                                                                                                          | When adding, replacing, or changing emission units, tanks, fugitive sources, or control equipment                                                                                         |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | ME-01 Continuous Monitoring System Information                                                                                                                                               | To describe new, removed, or changed continuous monitoring systems                                                                                                                        |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | ME-02 Monitor Associations                                                                                                                                                                   | When adding, replacing, or changing continuous monitoring systems                                                                                                                         |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | PAL-01 PAL Cover Page                                                                                                                                                                        | When requesting a new Plantwide Applicability Limit (PAL) under NSR                                                                                                                       |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | PAL-02 Determination of Plantwide Applicability Limit for Major NSR Sources                                                                                                                  | When requesting a new Plantwide Applicability Limit (PAL) under NSR                                                                                                                       |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | MI-02c Modeling for Plantwide Applicability Limitations                                                                                                                                      | When requesting a new Plantwide Applicability Limit (PAL) under NSR                                                                                                                       |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | EC-03 IC Engine Screen Modeling                                                                                                                                                              | When adding or changing a non-emergency generator                                                                                                                                         |

| Yes                      | No                                  | Requirement                                                                                                                                                                 | When Required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Application for reissuance of Title V or expiring state operating permit submitted<br><input type="checkbox"/> required<br><input checked="" type="checkbox"/> not required | If the expiration date of the operating permit has passed or will have passed by the time the requested permit amendment has been issued, Under Minn. R. 7007.0400, subpart 2, an application for reissuance of the operating permit is required 180 days prior to the expiration date of the permit.                                                                                                                                                                                                                                                      |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Environmental Assessment Worksheet submitted<br><input type="checkbox"/> required<br><input checked="" type="checkbox"/> not required                                       | Varies – see <a href="http://www.pca.state.mn.us/index.php/topics/environmental-review/environmental-assessment-worksheets-and-environmental-impact-statements.html">http://www.pca.state.mn.us/index.php/topics/environmental-review/environmental-assessment-worksheets-and-environmental-impact-statements.html</a>                                                                                                                                                                                                                                     |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Air Emission Risk Analysis submitted (AERA) submitted<br><input type="checkbox"/> required<br><input checked="" type="checkbox"/> not required                              | An AERA will likely be needed if there is an increase of any criteria pollutant by 250 tons per year or more. An AERA may also be required on a case-by-case basis – see <a href="http://www.pca.state.mn.us/index.php/air/air-monitoring-and-reporting/air-emissions-modeling-and-monitoring/air-emission-risk-analysis-aera/air-emissions-risk-analysis-aera.html">http://www.pca.state.mn.us/index.php/air/air-monitoring-and-reporting/air-emissions-modeling-and-monitoring/air-emission-risk-analysis-aera/air-emissions-risk-analysis-aera.html</a> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Dispersion modeling submitted<br><input checked="" type="checkbox"/> required<br><input type="checkbox"/> not required                                                      | If AERA is needed, or if project is subject to PSD unless the only pollutant involved is a Volatile Organic Compound. See <a href="http://www.pca.state.mn.us/index.php/air/air-monitoring-and-reporting/air-emissions-modeling-and-monitoring/air-dispersion-modeling/index.html">http://www.pca.state.mn.us/index.php/air/air-monitoring-and-reporting/air-emissions-modeling-and-monitoring/air-dispersion-modeling/index.html</a>                                                                                                                      |

EBD Modeling submitted in April 2015 and approved in May 2015. No separate modeling report required.

## Instructions for Form CH-14

- 1a) AQ Facility ID No.** -- Fill in your Air Quality (AQ) Facility identification (ID) Number (No.). This is the first eight digits of the permit number for all permits issued under Minn. R. ch. 7007.
- 1b) Agency Interest ID No.** -- Fill in your agency interest identification (ID) number (No.). This is an ID number assigned to your facility through the Tempo database. If you don't know this number, leave this line blank.
- 2) Facility Name** -- Enter your facility name.
- 3)** Complete each line of the table by checking the appropriate box, indicating that the specified form or attachment is included or not included in the application.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-03**

**Major Permit Amendment Determination  
Air Quality Permit Program**

*Doc Type: Permit Application*

**Instructions start on Page 2**

**1a)** AQ Facility ID No.: 03700070      **1b)** Agency Interest ID No.: 578  
**1c)** Facility Name: Sanimax USA, LLC

To answer the questions posed in this form, you will have to complete the additional forms referenced in the individual items.

This form refers to proposed **changes** and **modifications**. A “modification” as defined in Minn. R. 7007.0100, subp. 14, includes:

- A. any change that constitutes a title I modification ...; or
- B. any physical change or change in the method of operation of an emissions unit, emission facility, or stationary source that results in an increase in the emission of a regulated air pollutant.

A “change” is a change to permit terms or conditions, in the absence of a modification as described above.

**2)** Is the proposed change an amendment to existing permit requirements related to **monitoring, reporting, or recordkeeping other than (1)** adding new requirements, **(2)** eliminating the requirements if they are rendered meaningless because they apply to emissions that will no longer occur, **(3)** changing test methods if both the new and the old test methods are considered valid for the pollutant and source category, **(4)** eliminating requirements that are redundant to or less strict than other existing requirements, **(5)** eliminating requirements that are technically incorrect where the elimination does not affect the accuracy of the data generated, or **(6)** eliminating requirements for a piece of equipment that no longer exists (Minn. R. 7007.1500, subp. 1(A))?

- ☒ Yes. If you answer yes to this question, a major amendment is required. Use and submit Form CD-01 and/or CD-05 to document the changes to such requirements. If the permit application will include a proposed modification as defined in Minn. R. 7007.0100, subp. 14 or another type of proposed change, go to question 3a; otherwise, you are done with this form.
- ☐ No. Go to question 3a.

**3)** Is the proposed change or modification a title I modification? It is if the answer to any of the following is “**yes**”:

**3a)** Is the proposed change or modification subject to New Source Review? Use and submit Forms CH-04, CH-04c, and CH-04a or CH-04b, as applicable, and all other forms referenced therein.

- ☐ Yes  
☒ No

**3b)** Is the proposed change or modification a modification or reconstruction as defined for New Source Performance Standards? Use and submit Form CH-05.

- ☐ Yes  
☒ No

**3c)** Is the proposed change or modification a hazardous air pollutant modification under Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAPs)? Use and submit Form CH-06.

- ☐ Yes  
☒ No

**3d)** Is the proposed change or modification defined as construction or reconstruction of a major source under Part 63 NESHAPs? Use and submit Form CH-07.

- ☐ Yes  
☒ No

**4)** Reserved for future use.

- 5) Does this change or modification establish or amend any **source-specific permit condition** that is required to be based on a case-by-case determination of an emissions limit or standard, an ambient impacts analysis, visibility, or increment analysis (e.g., a modeling-based limit, the requirement to operate a specific control device for a specific emission unit, specific operating parameters for a control device, a specific control efficiency, Best Available Control Technology (BACT), Maximum Achievable Control Technology (MACT), etc.) (Minn. R. 7007.1500, subp. 1(B))?
- ☒ Yes. Use and submit Form CD-01 and/or CD-05 to document such conditions. If you are amending existing New Source Review requirements established through a previously issued New Source Review permit (requirements from a BACT analysis, or ambient impacts, class I impacts, or additional impacts analysis), submit Form CH-04e and appropriate supporting documentation (revised BACT, ambient impacts, class I impacts, or additional impacts analyses). If you are amending existing requirements based on a case-by-case MACT determination, please contact the MPCA for more information.
- ☐ No
- 6) Does this change or modification establish or amend any permit terms or conditions for which there is no underlying applicable requirement and that you have assumed to avoid an applicable requirement to which you would otherwise be subject? Such limits are usually synthetic minor limitations such as a limit on hours of operation. Please note that if you would like to add equipment under an existing emissions cap or limit, and the permit does not explicitly pre-authorize such additions, that is considered amending the limit or emissions cap. (Minn. R. 7007.1500, subp. 1(C)).
- ☒ Yes. Use and submit Form CD-01 and/or CD-05 to document such conditions.
- ☐ No
- 7) Does this change or modification establish, amend, renew, or distribute a **Plantwide Applicability Limit (PAL)** under 40 CFR § 52.21(aa)? (This is only available to existing major sources under New Source Review.)
- ☐ Yes. Use and submit Forms PAL-01 (and the forms referenced within PAL-01) and CD-01 to document conditions. (As of the date of this form, the PAL cover page (PAL-01) and the form for determination of a PAL (PAL-02) have been completed. The remaining forms for renewal, expiration allocation, and increasing a PAL, are not yet available.)
- ☒ No
- 8) Is this change or modification subject to classification as a **major permit amendment under any other agency rule**?
- ☐ Yes If yes, please describe below.
- ☒ No
- 9) Does this change or modification seek to establish or amend a federally enforceable emission cap (such as a synthetic minor limit which limits hours of operation) which avoids classification as a part 70 source?
- ☒ Yes. Use and submit Form CD-01 and/or CD-05 to document conditions.
- ☐ No

If you answered "Yes" to one or more of the above questions, a major permit amendment is required.

### Instructions for Form CH-03 - Major Permit Amendment Checklist

- 1a) **AQ Facility ID No.** -- Fill in your Air Quality (AQ) Facility identification (ID) Number. This is the first eight digits of the permit number for all new permits issued under the operating permit program. If you don't know this number, leave this line blank.
- 1b) **Agency Interest ID No.** -- Fill in your Agency Interest ID No. This is an ID number assigned to your facility through the Tempo database. If you don't know this number, leave this line blank.
- 1c) **Facility Name** -- Enter the facility name.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-04**

**Determination of New Source Review Status  
Air Quality Permit Program**

*Doc Type: Permit Application*

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

3) Is your facility defined as one of the following types of facilities?

Some standard industrial classification (SIC) code(s) applying to specific categories are given in parentheses to assist you in classifying your facility. The SIC codes provided are not meant to be an exhaustive list of facilities included in the category.

- Coal Cleaning Plants-With Thermal Dryers
- Portland Cement Plants (3241)
- Iron and Steel Mills (3312)
- Primary Copper Smelters (3331)
- Hydrofluoric Acid Plants (2819, 2899)
- Nitric Acid Plants (2873)
- Lime Plants (3274)
- Coke Oven Batteries (3312)
- Carbon Black Plants (Furnace Process, 2895)
- Fuel Conversion Plants
- Secondary Metal Production Plants (334X)
- Fossil-Fuel Boilers (or combination thereof) totaling more than 250 MMBtu/hr heat input
- Taconite Ore Processing Plants (1011)
- Charcoal Production Plants (2819, 2861)
- Kraft Pulp Mills (2611, 2621)
- Primary Zinc Smelters (3339)
- Primary Aluminum Ore Reduction Plants (3334)
- Municipal Incinerators Capable of Charging More Than 250 Tons of Refuse per Day
- Sulfuric Acid Plants (2819)
- Petroleum Refineries (2911)
- Phosphate Rock Processing Plants (1475)
- Sulfur Recovery Plants (2819)
- Primary Lead Smelters (3339)
- Sintering Plants\*
- Chemical Process Plants (28XX)\*\*
- Petroleum Storage & Transfer Units, Total Storage Capacity over 300,000 Barrels
- Glass Fiber Processing Plants
- Fossil Fuel-Fired Steam Electric Plants of more than 250 MMBtu/hr heat input

\* Processing of fine grain materials into coarser lumps (performed primarily on ores).

\*\*Does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140.

- ☐ **Yes**, my facility is classified as one of the 28 sources listed above. A listed air emission source having a potential to emit (PTE) 100 tons per year (TPY) or more of any single regulated pollutant (except carbon dioxide equivalents (CO<sub>2</sub>e)) is considered a major stationary source. For sources classified as one of the 28 listed, fugitive emissions must be included in the PTE. **For item 4 of this form, and for Form CH-04b if applicable, a 100-TPY emissions threshold must be used for all regulated pollutants except CO<sub>2</sub>e; for CO<sub>2</sub>e, the threshold is 100,000 TPY.**
- ☒ **No**, my facility is not classified as one of the 28 sources listed above. An air emission source not classified as one of the 28 sources listed above and having the PTE 250 TPY or more of any single regulated pollutant (except CO<sub>2</sub>e) is considered a major stationary source. **For item 4 of this form, and for Form CH-04b if applicable, a 250-TPY emissions threshold must be used for all regulated pollutants except CO<sub>2</sub>e; for CO<sub>2</sub>e, the threshold is 100,000 TPY.**

4) Is your proposed change subject to regulation for greenhouse gas (GHG), as defined in 40 CFR § 52.21(b)(49)? To answer this question, you must complete Form CH-04c.

- ☐ **Yes.** Go to question 5.
- ☒ **No.** Go to question 6

5) Is the current federally enforceable PTE (including GHG) of your facility greater than or equal to the thresholds identified in question 3?

- ☐ **Yes.** Go to question 7.
- ☐ **No.** Go to question 9.

- 6) Is the current federally enforceable PTE (excluding GHG) of your facility greater than or equal to the thresholds identified in question 3, making your facility a major stationary source?
- ☐ **Yes.** Go to question 7.
- ☒ **No.** Go to question 9
- 7) Is your facility currently covered by a permit that contains a Plantwide Applicability Limit ("actuals PAL") as defined at 40 CFR § 52.21(aa)(2)(i) and (v)?
- ☐ **Yes.** Go to question 8.
- ☐ **No.** Go to question 9.
- 8) Are you able to continue to meet the emissions limits set by the Plantwide Applicability Limit after the project?
- ☐ **Yes.** New Source Review is not applicable to the proposed change/modification. You need not complete the remainder of this form. You must determine if an amendment is needed under Minn. R. 7007.1150 – 7007.1500.
- ☐ **No.** You must complete a Best Available Control Technology (BACT) analysis for all major and significant emissions units at your source. If installation of BACT still does not allow you to install the emission unit and maintain compliance with your PAL, you may apply for an increase in your PAL. Please see the Minnesota Pollution Control Agency fact sheet on PALs at <http://www.pca.state.mn.us/index.php/view-document.html?gid=2097> or Form PAL-05 (*not yet available as of the date of this form*), for guidance on increasing a PAL. Do not complete the remainder of this form.
- 9) Synthetic Minor Source: Are you proposing new or revised federally enforceable limits such that the **entire facility (including the proposed modification)** will become or remain a minor source?
- ☐ **Yes.** Submit an application for a major amendment. Refer to <http://www.pca.state.mn.us/zihyd8c> for guidance on setting limits. Put proposed limits and proposed compliance demonstration on Form CD-01. Do **not** complete Form CH-04a. If you are revising an existing federally enforceable limit, complete Form CH-04b to document emission changes.
- ☒ **No.** If you answered "Yes" to question 5 or question 6, go to Form CH-04a.  
If you answered "No" to question 5 or question 6, go to Form CH-04b.



# Minnesota Pollution Control Agency

520 Lafayette Road North  
St. Paul, MN 55155-4194

# CH-04b

## Determination of Increases at Minor Sources

Air Quality Permit Program

Doc Type: Permit Application

**Instructions on page 4**

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

Use this Form to calculate emissions increases at existing sources which are minor New Source Review (NSR) sources. If the facility is a major source under NSR, use Form CH-04a.

3) Refer to Question 4 on Form CH-04 or question C3 on Form GI-09C, as applicable. Is the proposed change subject to regulation for GHG?

☐ Yes – Include carbon dioxide equivalents (CO<sub>2</sub>e) emissions when completing the tables on this form.

☒ No – Do not include CO<sub>2</sub>e when completing the tables on this form – Leave the CO<sub>2</sub>e entries blank, or enter “NA.”

4) Use Table 1 to document the potential emissions of the individual units, tanks, or fugitive sources affected by the proposed modification. See instructions for calculating emissions increases. Make additional copies of Table 1 if more than four units are affected. Summarize the total increases for each pollutant in Table 2. Attach your calculations.

**Table 1**

|                                                           | EU 2                      | EU 6                      | EU 20                     | EU 21                     |             |
|-----------------------------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------|
| Pollutant                                                 | Potential emissions (tpy) | Potential emissions (tpy) | Potential emissions (tpy) | Potential emissions (tpy) | Total (tpy) |
| PM                                                        | 6.45                      | 1.81                      |                           |                           | 8.26        |
| PM <sub>10</sub> (including condensables)                 | 5.70                      | 1.26                      |                           |                           | 6.96        |
| PM <sub>2.5</sub> (including condensables)                | 3.43                      | 0.85                      |                           |                           | 4.28        |
| NO <sub>x</sub>                                           |                           | 13.75                     |                           |                           | 13.75       |
| SO <sub>2</sub>                                           |                           |                           |                           |                           |             |
| CO                                                        |                           |                           |                           |                           |             |
| Ozone (VOC)                                               | 1.07                      | 0.67                      | 7.05                      | 1.99                      | 10.78       |
| Lead                                                      |                           |                           |                           |                           |             |
| Fluorides                                                 |                           |                           |                           |                           |             |
| Sulfuric acid mist                                        |                           |                           |                           |                           |             |
| Hydrogen Sulfide (H <sub>2</sub> S)                       |                           |                           |                           |                           |             |
| Total Reduced Sulfur including H <sub>2</sub> S           |                           |                           |                           |                           |             |
| Total Reduced Sulfur Compounds including H <sub>2</sub> S |                           |                           |                           |                           |             |
| MWC Organics                                              |                           |                           |                           |                           |             |
| MWC Acid Gas                                              |                           |                           |                           |                           |             |
| MSW Landfill Gas                                          |                           |                           |                           |                           |             |
| Carbon dioxide equivalents (CO <sub>2</sub> e)            |                           | 13,922                    |                           |                           | 13,922      |





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-04b**

**Determination of Increases at Minor Sources**

Air Quality Permit Program

Doc Type: Permit Application

**Instructions on page 4**

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

Use this Form to calculate emissions increases at existing sources which are minor New Source Review (NSR) sources. If the facility is a major source under NSR, use Form CH-04a.

3) Refer to Question 4 on Form CH-04 or question C3 on Form GI-09C, as applicable. Is the proposed change subject to regulation for GHG?

☐ Yes – Include carbon dioxide equivalents (CO<sub>2</sub>e) emissions when completing the tables on this form.

☒ No – Do not include CO<sub>2</sub>e when completing the tables on this form – Leave the CO<sub>2</sub>e entries blank, or enter “NA.”

4) Use Table 1 to document the potential emissions of the individual units, tanks, or fugitive sources affected by the proposed modification. See instructions for calculating emissions increases. Make additional copies of Table 1 if more than four units are affected. Summarize the total increases for each pollutant in Table 2. Attach your calculations.

**Table 1**

| Pollutant                                                 | EU 23<br>Potential<br>emissions (tpy) | Potential<br>emissions (tpy) | Potential<br>emissions (tpy) | Potential<br>emissions (tpy) | Total<br>(tpy) |
|-----------------------------------------------------------|---------------------------------------|------------------------------|------------------------------|------------------------------|----------------|
| PM                                                        | 16.86                                 |                              |                              |                              | 25.12          |
| PM <sub>10</sub> (including condensables)                 | 10.42                                 |                              |                              |                              | 17.38          |
| PM <sub>2.5</sub> (including condensables)                | 5.60                                  |                              |                              |                              | 9.88           |
| NO <sub>x</sub>                                           | 43.99                                 |                              |                              |                              | 57.74          |
| SO <sub>2</sub>                                           | 53.66                                 |                              |                              |                              | 53.66          |
| CO                                                        | 35.35                                 |                              |                              |                              | 35.35          |
| Ozone (VOC)                                               | 3.75                                  |                              |                              |                              | 14.53          |
| Lead                                                      | 2.10E-04                              |                              |                              |                              | 2.10E-04       |
| Fluorides                                                 |                                       |                              |                              |                              |                |
| Sulfuric acid mist                                        |                                       |                              |                              |                              |                |
| Hydrogen Sulfide (H <sub>2</sub> S)                       |                                       |                              |                              |                              |                |
| Total Reduced Sulfur including H <sub>2</sub> S           |                                       |                              |                              |                              |                |
| Total Reduced Sulfur Compounds including H <sub>2</sub> S |                                       |                              |                              |                              |                |
| MWC Organics                                              |                                       |                              |                              |                              |                |
| MWC Acid Gas                                              |                                       |                              |                              |                              |                |
| MSW Landfill Gas                                          |                                       |                              |                              |                              |                |
| Carbon dioxide equivalents (CO <sub>2</sub> e)            | 77,611                                |                              |                              |                              | 91,533         |

**Table 2 - Summary**

| Pollutant                                                    | Emissions from all units affected by the modification (from Table 1) (tpy) | Thresholds for minor sources ("No" to CH-04 question 5 or 6 or "No" to GI-09C question C4 or C5) (tpy) |                                                       | Thresholds for major sources                       |
|--------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
|                                                              |                                                                            | Answered "Yes" to CH-04 question 3 or GI-09C Section A                                                 | Answered "No" to CH-04 question 3 or GI-09C Section A | Significant Emission Rates for major sources (tpy) |
| PM                                                           | 25.12                                                                      | 100                                                                                                    | 250                                                   | 25 <sup>5</sup>                                    |
| PM <sub>10</sub> (including condensables)                    | 17.38                                                                      | 100                                                                                                    | 250                                                   | 15                                                 |
| PM <sub>2.5</sub> (including condensables)                   | 9.88                                                                       | 100                                                                                                    | 250                                                   | 10                                                 |
| NO <sub>x</sub>                                              | 57.74                                                                      | 100                                                                                                    | 250                                                   | 40                                                 |
| SO <sub>2</sub>                                              | 53.66                                                                      | 100                                                                                                    | 250                                                   | 40                                                 |
| CO                                                           | 35.35                                                                      | 100                                                                                                    | 250                                                   | 100                                                |
| Ozone (VOC)                                                  | 14.53                                                                      | 100                                                                                                    | 250                                                   | 40                                                 |
| Lead                                                         | 2.10E-04                                                                   | 100                                                                                                    | 250                                                   | 0.6                                                |
| Fluorides                                                    |                                                                            | 100                                                                                                    | 250                                                   | 3                                                  |
| Sulfuric acid mist                                           |                                                                            | 100                                                                                                    | 250                                                   | 7                                                  |
| Hydrogen Sulfide (H <sub>2</sub> S)                          |                                                                            | 100                                                                                                    | 250                                                   | 10                                                 |
| Total Reduced Sulfur including H <sub>2</sub> S              |                                                                            | 100                                                                                                    | 250                                                   | 10                                                 |
| Total Reduced Sulfur Compounds including H <sub>2</sub> S    |                                                                            | 100                                                                                                    | 250                                                   | 10                                                 |
| MWC Organics <sup>1</sup>                                    |                                                                            | 100                                                                                                    | 250                                                   | 10                                                 |
| MWC Acid Gas <sup>2</sup>                                    |                                                                            | 100                                                                                                    | 250                                                   | 0.0000035                                          |
| MWC Metals <sup>3</sup>                                      |                                                                            | 100                                                                                                    | 250                                                   | 40                                                 |
| MSW Landfill Gas                                             |                                                                            | 100                                                                                                    | 250                                                   | 15                                                 |
| Carbon dioxide equivalents (CO <sub>2</sub> e <sup>4</sup> ) | 91,533                                                                     | 100,000                                                                                                | 100,000                                               | 75,000                                             |

**Note 1:** MWC Organics means Municipal Waste Combustor Organics. These are defined as total tetra-thro-octa-chlorinated dibenzo-para-dioxins and dibenzofurans.

**Note 2:** MWC acid gases are measured as the sum of sulfur dioxide and hydrochloric acid.

**Note 3:** MWC Metals are measured as particulate matter.

**Note 4:** CO<sub>2</sub>e is calculated as a weighted aggregate of carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, using the gases' global warming potentials. (Refer to the MPCA website at <http://www.pca.state.mn.us/ktgh126f> for instructions on calculating greenhouse gas emissions.)

**Note 5:** On July 31, 1987, the National Ambient Air Quality Standard for TSP (PM) was repealed and replaced with a standard for PM<sub>10</sub>. The significant levels in this table are as they appear in the Code of Federal Regulations, March 1994. A source may not be required to comply with Nonattainment NSR for TSP increases above 25 tpy, but may be for PM<sub>10</sub> above 15 tpy.

5) Referring to Table 2, do the total emissions from new, modified, debottlenecked, and replacement units exceed the appropriate threshold for minor sources, for any pollutant?

☒ No. Done with this form. Attach all calculations and required documentation (as described within this form). If you were sent to this from Form GI-09C, go back to that form and answer "No" to the question of whether the proposed change or modification is subject to NSR.

☐ Yes. Go to question 6.

6) In Table 3, list each pollutant for which the minor source threshold is exceeded in Table 2. Then go to question 7.

**Table 3 – Pollutant Status vs. Minor Source Thresholds**

**Pollutants exceeding the minor source threshold in Table 2:**

|  |  |
|--|--|
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

- 7) Will you propose and accept a limit on every pollutant in Table 3 such that no minor source thresholds are exceeded? (Refer to the MPCA website at <http://www.pca.state.mn.us/zihyd8c> for information on how to determine and propose limits.)
- ☐ Yes. Go to question 8.
- ☐ No. The emissions of at least one pollutant exceed the threshold for minor sources. Go to question 10.
- 8) Briefly describe the limit(s) you are proposing to keep the emissions of all pollutants listed in Table 3 below its associated minor source threshold. Also include the limit(s) on Form CD-01, with your proposed method of demonstrating compliance. Then go to question 9.
- 9) You are done with this form. Attach all calculations and required documentation (as described within this form). If you were sent to this from Form GI-09C, go back to that form and answer "No" to the question of whether the proposed change or modification is subject to NSR.
- 10) The project is major for at least one pollutant.  
Review Table 2. In Table 4, list each pollutant for which the total emissions from new, modified, debottlenecked, and replacement units exceed the associated major modification threshold for major sources. Then go to question 11.

**Table 4 – Pollutant Status vs. Major Modification Thresholds**

**Pollutants exceeding the major source significant emission rate in Table 2**

|  |  |
|--|--|
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

- 11) Will you propose and accept a limit on any pollutant in Table 4 such that it does not exceed its major source significant emission rate? (Refer to the MPCA website at <http://www.pca.state.mn.us/zihyd8c> for information on determining and proposing limits.)
- ☐ Yes. Go to question 12.
- ☐ No. The project is major for each pollutant listed in Table 4. Go to question 13.
- 12) Briefly describe the limit(s) you are proposing to keep the emissions of any pollutant listed in Table 4 below their significant emission rates. Also include the limit(s) on Form CD-01 with your proposed method of demonstrating compliance. Go to question 13.
- 13) In Table 5, list all pollutants that you have determined to be subject to PSD. This will include each pollutant in Table 3 and in Table 4 for which you did not limit emissions below the major source threshold in Table 2 (the significant emission rate).

**Table 5 – Pollutants Subject to PSD**

|  |  |
|--|--|
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

- 14) You have now completed this form. Attach all calculations and required documentation (as described within this form). If you were sent to this from Form GI-09C, go back to that form and answer "Yes" to the question of whether the proposed change or modification is subject to NSR. Also complete CH-04e to identify the information needed for a PSD permit application.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-04c**

**Determination of Greenhouse Gas  
Status under New Source Review  
Air Quality Permit Program**

*Doc Type: Permit Application*

**Instructions on page 5**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

- 3) Calculate the potential to emit (PTE) of greenhouse gases (GHG) emissions for your existing facility, before your proposed change, including the mass emissions of individual GHGs (columns a – f), the sum of the mass emissions of individual GHGs (column g), and the carbon dioxide equivalent (CO<sub>2</sub>e, column h). Refer to the Minnesota Pollution Control Agency (MPCA) GHG Emissions website at <http://www.pca.state.mn.us/ktgh126f> for guidance in calculating the individual mass emissions and the CO<sub>2</sub>e. Complete your calculations on a spreadsheet; transfer the current PTE to Table 1 below, and include the calculation spreadsheet in your application package.

**Table 1**

| a)                                      | b)                               | c)                                     | d)                              | e)                            | f)                                           | g)                     | h)                                                  |
|-----------------------------------------|----------------------------------|----------------------------------------|---------------------------------|-------------------------------|----------------------------------------------|------------------------|-----------------------------------------------------|
| Carbon Dioxide (CO <sub>2</sub> ) (tpy) | Methane (CH <sub>4</sub> ) (tpy) | Nitrous Oxide (N <sub>2</sub> O) (tpy) | Hydrofluoro-carbons (HFC) (tpy) | Perfluoro-carbons (PFC) (tpy) | Sulfur Hexafluoride (SF <sub>6</sub> ) (tpy) | Mass Sum of GHGs (tpy) | Carbon Dioxide Equivalent (CO <sub>2</sub> e) (tpy) |
| 52,089                                  | 1.71                             | 1.00                                   | 0                               | 0                             | 0                                            | 52,092                 | 52,431                                              |

- 4) Is the number you entered for CO<sub>2</sub>e greater than 100,000 tpy?
- ☐ Yes. Go to question 5.
- ☒ No. Go to question 6.
- 5) Is the mass sum of the individual GHGs (column g) greater than either 100 tpy (if you answered “yes” to question 3 on Form CH-04 or Section A on Form GI-09C), or 250 tpy (if you answered “no” to question 3 on Form CH-04 or Section A on Form GI-09C)?
- ☐ Yes. Go to question 8. Do not answer questions 6 or 7 or complete Tables 2 or 3.
- ☐ No. Go to question 6.
- 6) Use Table 2 to document the emissions increase for individual units, tanks, or fugitive sources affected by the proposed modification. See instructions for calculating emissions increases. Make additional copies of Table 2 if more than four units are affected. Summarize the total increases for each pollutant in Table 3. Attach your calculations (both in an editable spreadsheet format, and a hard copy printout). Answer the question following Table 3.

**Table 2**

|                   | EU 002                    | EU 006                    | EU 023                    |                           |             |
|-------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------|
| Pollutant         | Potential emissions (tpy) | Potential emissions (tpy) | Potential emissions (tpy) | Potential emissions (tpy) | Total (tpy) |
| CO <sub>2</sub>   |                           | 13,846                    | 77,185                    |                           | 91,031      |
| CH <sub>4</sub>   |                           |                           | 0.97                      |                           | 0.97        |
| N <sub>2</sub> O  | 0.22                      | 0.76                      | 4.22                      |                           | 5.20        |
| HFC               |                           |                           |                           |                           |             |
| PFC               |                           |                           |                           |                           |             |
| SF <sub>6</sub>   |                           |                           |                           |                           |             |
| CO <sub>2</sub> e |                           | 13,922                    | 77,611                    |                           | 91,533      |

**Table 3 - Summary**

| Pollutant                               | Potential Emissions<br>(“Total” from Table 2)<br>(tpy) | Thresholds making your change Subject<br>to Regulation (tpy) |                                      |
|-----------------------------------------|--------------------------------------------------------|--------------------------------------------------------------|--------------------------------------|
|                                         |                                                        | Answered “Yes” to<br>CH-04 question 3                        | Answered “No” to<br>CH-04 question 3 |
| CO <sub>2</sub>                         | 91,031                                                 | NA                                                           | NA                                   |
| CH <sub>4</sub>                         | 0.97                                                   | NA                                                           | NA                                   |
| N <sub>2</sub> O                        | 5.20                                                   | NA                                                           | NA                                   |
| HFC                                     |                                                        | NA                                                           | NA                                   |
| PFC                                     |                                                        | NA                                                           | NA                                   |
| SF <sub>6</sub>                         |                                                        | NA                                                           | NA                                   |
| Total Mass GHG (sum of above 6 numbers) | 91,037                                                 | 100                                                          | 250                                  |
| CO <sub>2</sub> e                       | 91,533                                                 | 100,000                                                      | 100,000                              |

Is the number you entered for CO<sub>2</sub>e in Table 3 greater than or equal to 100,000 tpy?

☐ Yes. Go to question 7.

☒ No. Your proposed change is not Subject to Regulation for GHG under New Source Review. You are done with this form. Return to the form that directed you here (Form CH-04 or Form GI-09C) and answer “No” to the question of whether the proposed change or modification is subject to regulation for GHG.

7) Are the total mass emissions (sum of the masses of the individual GHGs, excluding global warming potentials) greater than or equal to the applicable threshold, shown in the two columns on the right?

☐ Yes. Your proposed change is Subject to Regulation for GHG under New Source Review. You are done with this form. Return to the form that directed you here (Form CH-04 or Form GI-09C) and answer “Yes” to the question of whether the proposed change or modification is subject to regulation for GHG.

☐ No. Your proposed change is not Subject to Regulation for GHG under New Source Review. You are done with this form. Return to the form that directed you here (Form CH-04 or Form GI-09C) and answer “No” to the question of whether the proposed change or modification is subject to regulation for GHG.

8) Use Table 4 to document the emissions increase for individual units, tanks, or fugitive sources being modified or debottlenecked, or that are replacing an existing unit, using the calculation method found in 40 CFR § 52.21(a). See instructions for calculating emissions increases; the method is different depending on the type of unit. Complete a separate Table 4 for each modified, replacement, or debottlenecked emission unit. If you base your calculations on projected actual emissions (rather than future potential emissions), include (in the space provided at the end of Table 4) the title and date of the business document on which you based your projections. If you exclude emissions from your projected actual emissions, include (in the space provided at the end of Table 1) a description of the excluded emissions, including an explanation of why these were excluded. Attach an additional sheet if necessary. Make additional copies if more than three units are affected. Summarize the total increases for each pollutant in Table 5. Attach your calculations.

**Table 4**

| Pollutant         | <input type="checkbox"/> Modified<br><input type="checkbox"/> Projected Actual*<br>or<br><input type="checkbox"/> Future Potential<br>Emissions (tpy) | <input type="checkbox"/> Replacement<br>Baseline Actual<br>Emissions (tpy) | <input type="checkbox"/> Debottlenecked<br>Exclusions from<br>Projected<br>Actuals (tpy)** | Increase<br>(tpy) | Baseline period<br>(dates) |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------|----------------------------|
|                   |                                                                                                                                                       |                                                                            |                                                                                            |                   |                            |
| CO <sub>2</sub>   |                                                                                                                                                       |                                                                            |                                                                                            |                   |                            |
| CH <sub>4</sub>   |                                                                                                                                                       |                                                                            |                                                                                            |                   |                            |
| N <sub>2</sub> O  |                                                                                                                                                       |                                                                            |                                                                                            |                   |                            |
| HFC               |                                                                                                                                                       |                                                                            |                                                                                            |                   |                            |
| PFC               |                                                                                                                                                       |                                                                            |                                                                                            |                   |                            |
| SF <sub>6</sub>   |                                                                                                                                                       |                                                                            |                                                                                            |                   |                            |
| CO <sub>2</sub> e |                                                                                                                                                       |                                                                            |                                                                                            |                   |                            |

\* Title/date of document(s) used as basis for projected actuals: \_\_\_\_\_

\*\* Description of emissions excluded from projected actuals: \_\_\_\_\_

Table 4

| <input type="checkbox"/> Modified |                                                                                                               | <input type="checkbox"/> Replacement |                                           | <input type="checkbox"/> Debottlenecked |                         |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------|-----------------------------------------|-------------------------|
| Pollutant                         | <input type="checkbox"/> Projected Actual*<br>or<br><input type="checkbox"/> Future Potential Emissions (tpy) | Baseline Actual Emissions (tpy)      | Exclusions from Projected Actuals (tpy)** | Increase (tpy)                          | Baseline period (dates) |
| CO <sub>2</sub>                   |                                                                                                               |                                      |                                           |                                         |                         |
| CH <sub>4</sub>                   |                                                                                                               |                                      |                                           |                                         |                         |
| N <sub>2</sub> O                  |                                                                                                               |                                      |                                           |                                         |                         |
| HFC                               |                                                                                                               |                                      |                                           |                                         |                         |
| PFC                               |                                                                                                               |                                      |                                           |                                         |                         |
| SF <sub>6</sub>                   |                                                                                                               |                                      |                                           |                                         |                         |
| CO <sub>2</sub> e                 |                                                                                                               |                                      |                                           |                                         |                         |

\* Title/date of document(s) used as basis for projected actuals:

\*\* Description of emissions excluded from projected actuals: \_\_\_\_\_

Table 4

| <input type="checkbox"/> Modified |                                                                                                               | <input type="checkbox"/> Replacement |                                           | <input type="checkbox"/> Debottlenecked |                         |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------|-----------------------------------------|-------------------------|
| Pollutant                         | <input type="checkbox"/> Projected Actual*<br>or<br><input type="checkbox"/> Future Potential Emissions (tpy) | Baseline Actual Emissions (tpy)      | Exclusions from Projected Actuals (tpy)** | Increase (tpy)                          | Baseline period (dates) |
| CO <sub>2</sub>                   |                                                                                                               |                                      |                                           |                                         |                         |
| CH <sub>4</sub>                   |                                                                                                               |                                      |                                           |                                         |                         |
| N <sub>2</sub> O                  |                                                                                                               |                                      |                                           |                                         |                         |
| HFC                               |                                                                                                               |                                      |                                           |                                         |                         |
| PFC                               |                                                                                                               |                                      |                                           |                                         |                         |
| SF <sub>6</sub>                   |                                                                                                               |                                      |                                           |                                         |                         |
| CO <sub>2</sub> e                 |                                                                                                               |                                      |                                           |                                         |                         |

\* Title/date of document(s) used as basis for projected actuals:

\*\* Description of emissions excluded from projected actuals: \_\_\_\_\_

Table 5 – Summary of Table 4 Results

| Pollutant         | Increase (tpy) | Increase (tpy) | Increase (tpy) | Increase (tpy) | Increase (tpy) | Total Increase (tpy) |
|-------------------|----------------|----------------|----------------|----------------|----------------|----------------------|
| CO <sub>2</sub>   |                |                |                |                |                |                      |
| CH <sub>4</sub>   |                |                |                |                |                |                      |
| N <sub>2</sub> O  |                |                |                |                |                |                      |
| HFC               |                |                |                |                |                |                      |
| PFC               |                |                |                |                |                |                      |
| SF <sub>6</sub>   |                |                |                |                |                |                      |
| CO <sub>2</sub> e |                |                |                |                |                |                      |

- 9) Use Table 6 to document the potential emissions of each *new* emission unit constructed or installed. Copy this table if more than five units are added. Attach your calculations.

**Table 6**

|                   |                |                |                |                |                | Total Increase |
|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Pollutant         | Increase (tpy) | Increase (tpy) | Increase (tpy) | Increase (tpy) | Increase (tpy) | (tpy)          |
| CO <sub>2</sub>   |                |                |                |                |                |                |
| CH <sub>4</sub>   |                |                |                |                |                |                |
| N <sub>2</sub> O  |                |                |                |                |                |                |
| HFC               |                |                |                |                |                |                |
| PFC               |                |                |                |                |                |                |
| SF <sub>6</sub>   |                |                |                |                |                |                |
| CO <sub>2</sub> e |                |                |                |                |                |                |

- 10) Project Totals

**Table 7 – Project Summary**

| Column A          | Column B                                                                                     | Column C                                      | Column D             | Column E                                       |
|-------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------|------------------------------------------------|
| Pollutant         | Emissions increases from modified, replacement, or debottlenecked units (from Table 5) (tpy) | Emissions from new units (from Table 6) (tpy) | Total Increase (tpy) | Significant Thresholds for major sources (tpy) |
| CO <sub>2</sub>   |                                                                                              |                                               |                      | 0                                              |
| CH <sub>4</sub>   |                                                                                              |                                               |                      | 0                                              |
| N <sub>2</sub> O  |                                                                                              |                                               |                      | 0                                              |
| HFC               |                                                                                              |                                               |                      | 0                                              |
| PFC               |                                                                                              |                                               |                      | 0                                              |
| SF <sub>6</sub>   |                                                                                              |                                               |                      | 0                                              |
| CO <sub>2</sub> e |                                                                                              |                                               |                      | 75,000                                         |

- 11) Is the total increase of CO<sub>2</sub>e (Column D of Table 7) greater than or equal to 75,000 tpy?
- ☐ Yes. Your proposed change is Subject to Regulation for GHG under New Source Review. You are done with this form. Return to the form that directed you here (Form CH-04 or Form GI-09C) and answer “Yes” to the question of whether the proposed change or modification is subject to regulation for GHG.
- ☐ No. Your proposed change is not Subject to Regulation for GHG under New Source Review. You are done with this form. Return to the form that directed you here (Form CH-04 or Form GI-09C) and answer “No” to the question of whether the proposed change or modification is subject to regulation for GHG.

## Instructions for Form CH-04c

- 1a) AQ Facility ID No.** -- Fill in your Air Quality (AQ) Facility Identification (ID) Number (No.). This is the first eight digits of the permit number for all permits issued under the operating permit program.
- 1b) AQ File No.** -- Fill in your AQ File Number. This number can be found in the “cc” line of correspondence from the Minnesota Pollution Control Agency (MCPA).
- 2) Facility Name** -- Enter your facility name.
- 3) Calculate the GHG PTE of the existing facility (Table 1)**-- Potential to emit (PTE) is the capability at maximum design capacity to emit a pollutant, except as constrained by federally-enforceable conditions (which include the effect of installed air pollution control equipment and restrictions on the hours of operation, or the type or amount of material combusted, stored or processed). Do not take air pollution control equipment into account except as allowed by Minn. R. 7007.1200, subp. 2. You may not take credit for proposed or non federally-enforceable pollution control equipment.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

# CH-05

**Applicability of NSPS  
Air Quality Permit Program**

*Doc Type: Permit Application*

## Instructions on Page 3

Complete this form to determine if the proposed change or modification results in new applicability of a New Source Performance Standard listed in Table 1.

**1a)** AQ Facility ID No.: 03700070 **1b)** AQ File No.: 578

**2)** Facility Name: Sanimax USA, LLC

**3)** Is there a New Source Performance Standards (NSPS) for a source category which includes the unit(s) you are installing, modifying, or reconstructing?

☒ Yes. Go to question 4

☐ No. Done with this Form. Answer "No" to question 3b) on Form CH-03.

**4)** Complete Question 4a) – 4c) for each new, modified, or reconstructed unit which may be subject to an NSPS following the proposed project. (Copy as necessary.)

| 4a)<br>Unit | 4b)<br>NSPS Subpart(s) that may<br>apply after project | 4c)<br>Do all of the NSPS listed in column 4b) for the unit listed in column 4a) currently<br>apply (prior to the proposed project)? If this is a new unit, the answer is "no." |                                        |
|-------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| EU023       | Dc                                                     | <input type="checkbox"/> Yes – done with this unit                                                                                                                              | <input checked="" type="checkbox"/> No |
|             |                                                        | <input type="checkbox"/> Yes – done with this unit                                                                                                                              | <input type="checkbox"/> No            |
|             |                                                        | <input type="checkbox"/> Yes – done with this unit                                                                                                                              | <input type="checkbox"/> No            |
|             |                                                        | <input type="checkbox"/> Yes – done with this unit                                                                                                                              | <input type="checkbox"/> No            |
|             |                                                        | <input type="checkbox"/> Yes – done with this unit                                                                                                                              | <input type="checkbox"/> No            |

**5)** Did you check "no" in column 4c) for **any** unit in the table in question 4)?

☐ No. This indicates that NSPS currently applies to all units and there will be no newly applicable NSPS as a result of the proposed project. Done with this form. Answer "no" to question 3b on Form CH-03.

☒ Yes. Complete the remainder of this form for each unit for which you checked "no" in the last column of the table in question 4.

**6)** Installing a new unit to which the NSPS will apply?

☐ No. Go to Question 7).

☒ Yes. Complete Questions 6a) – 6e) for each new unit. (Copy as necessary.)

**6a)** Emission Unit Number: EU023

**6b)** Emission Unit/Equipment Description: Boiler #3

**6c)** Stack/Vent Number: SV020

**6d)** Date of Equipment Manufacture or Installation: 3/15/2016 (mm/dd/yyyy)

**6e)** Attach a copy of the applicable 40 CFR pt. 60 subpart, and subpart A, with the applicable sections highlighted. Use Form CD-01 to document the proposed methods of compliance.



7) Reconstructing an existing unit to which an NSPS will apply?

☒ No. Go to Question 8).

☐ Yes Complete Questions 7a) – 7e) (next page) for each reconstructed unit. (Copy as necessary.)

7a) Emission Unit Number: \_\_\_\_\_

7b) Emission Unit/Equipment Description: \_\_\_\_\_

7c) Stack/Vent Number: \_\_\_\_\_

7d) Date of Reconstruction (expected): \_\_\_\_\_ (mm/dd/yyyy)

7e) Attach a copy of the applicable 40 CFR pt. 60 subpart, and subpart A, with the applicable sections highlighted. Use Form CD-01 to document the proposed methods of compliance.

8) Physical change or modification to an existing unit to which the NSPS might apply?

☒ No Go to Question 10).

☐ Yes – Complete Question 8a) for each modified unit. (Copy as necessary.)

8a) Emission Unit ID No.: \_\_\_\_\_

| Pollutant(s) regulated by the NSPS         | Emission Rate after change (lb/hr) | Emission Rate before change (lb/hr) | Change in Emission Rate (lb/hr) |
|--------------------------------------------|------------------------------------|-------------------------------------|---------------------------------|
| <input type="checkbox"/> PM                |                                    |                                     |                                 |
| <input type="checkbox"/> PM <sub>10</sub>  |                                    |                                     |                                 |
| <input type="checkbox"/> PM <sub>2.5</sub> |                                    |                                     |                                 |
| <input type="checkbox"/> NO <sub>x</sub>   |                                    |                                     |                                 |
| <input type="checkbox"/> SO <sub>2</sub>   |                                    |                                     |                                 |
| <input type="checkbox"/> CO                |                                    |                                     |                                 |
| <input type="checkbox"/> VOC               |                                    |                                     |                                 |
| <input type="checkbox"/> Lead              |                                    |                                     |                                 |

9) Is there an increase in the hourly emission rate of any of the pollutants regulated by the NSPS?

☐ No. Go to Question 10).

☐ Yes – Complete Questions 9a) – 9d) for each modified unit. (Copy as necessary.)

9b) Emission Unit/Equipment Description \_\_\_\_\_

9b) Stack/Vent Number \_\_\_\_\_

9c) Date of Modification (expected) \_\_\_\_\_ (mm/dd/yyyy)

9d) Attach a copy of the applicable 40 CFR pt. 60 subpart, and subpart A, with the applicable sections highlighted. Use Form CD-01 to document the proposed methods of compliance.

10) Check all that apply

☒ If you answered either “yes” or “no” to question 6) **and** “no” to question 7) **and** “no” to question 8) or question 9), a major amendment is not needed under Minn. R. 7007.1500, subp. 3a. Answer “no” to Question 3b) on Form CH-03. Another type of permit amendment may still be required.

☐ If you answered “yes” or “no” to question 6), **and either** “yes” to question 7) **or** “yes” to questions 8) and 9), this change or modification requires a major amendment under Minn. R. 7007.1500, subp. 3a. Answer “yes” to Question 3b) on Form CH-03.

☐ If you answered “yes” to question 6), 7), or 9), **but the total facility potential-to-emit remains below all permit thresholds**, review Minn. R. 7007.0250 – 7007.0300 to determine if a permit is needed.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

# CH-06

**Applicability of Part 61 NESHAP  
Air Quality Permit Program**

Doc Type: Permit Application

## Instructions on Page 3

Complete this form to determine if the proposed change or modification results in new applicability of a Part 61 NESHAP listed in Table 1.

**1a)** AQ Facility ID No.: 03700070 **1b)** AQ File No.: 578

**2)** Facility Name: Sanimax USA, LLC

**3)** Is there a Part 61 NESHAP for a source category which includes the unit(s) you are installing, modifying, or reconstructing?

- ☐ Yes Go to question 4  
☒ No Done with this Form. Answer "No" to question 3c) on Form CH-03.

**4)** Complete Questions 4a) – 4c) for each new, modified, or reconstructed unit which may be subject to a Part 61 NESHAP following the proposed project (Copy as necessary).

| 4a)<br>Unit | 4b)<br>Part 61 Subpart(s) that<br>may apply after project | 4c)<br>Do all of the NESHAPs listed in column 4b) for the unit listed in column 4a) currently<br>apply (prior to the proposed project)? If this is a new unit, the answer is "no." |                             |
|-------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
|             |                                                           | <input type="checkbox"/> Yes – done with this unit                                                                                                                                 | <input type="checkbox"/> No |
|             |                                                           | <input type="checkbox"/> Yes – done with this unit                                                                                                                                 | <input type="checkbox"/> No |
|             |                                                           | <input type="checkbox"/> Yes – done with this unit                                                                                                                                 | <input type="checkbox"/> No |
|             |                                                           | <input type="checkbox"/> Yes – done with this unit                                                                                                                                 | <input type="checkbox"/> No |
|             |                                                           | <input type="checkbox"/> Yes – done with this unit                                                                                                                                 | <input type="checkbox"/> No |

**5)** Did you check "no" in column 4c) for **any** unit in the table in question 4)?

- ☐ No This indicates that NESHAP currently applies to all units and there will be no newly applicable NESHAPs as a result of the proposed project. Done with this form. Answer "no" to question 3c) on Form CH-03.  
☐ Yes Complete the remainder of this form for each unit for which you checked "no" in the last column of the table in question 4.

**6)** Installing new equipment which will cause a Part 61 NESHAP to apply?

- ☐ No Go to question 7).  
☐ Yes Complete 6a) – 6c) for each new unit (Copy as necessary). Use Form CD-01 to document the proposed methods of compliance. Include a highlighted photocopy of the standard.

**6a)** Emission Unit Number \_\_\_\_\_

**6b)** Emission Unit/Equipment Description \_\_\_\_\_

**6c)** Stack/Vent Number \_\_\_\_\_

**7)** Physical or operational change to an existing unit such that a Part 61 NESHAP will apply?

- ☐ No Go to question 9).  
☐ Yes Complete 7a) for each modified unit (Copy as necessary). Then go to question 8).

**7a)** Emission Unit ID No.: \_\_\_\_\_

| Pollutant | Emission Rate after change<br>(lb/hr) | Emission Rate before change<br>(lb/hr) | Change in Emission Rate (lb/hr) |
|-----------|---------------------------------------|----------------------------------------|---------------------------------|
|           |                                       |                                        |                                 |
|           |                                       |                                        |                                 |
|           |                                       |                                        |                                 |
|           |                                       |                                        |                                 |

- 8) Is there an increase in the emission rate of any of the pollutants regulated by the Part 61 NESHAP?
- ☐ No Go to question 9).
- ☐ Yes Complete questions 8a) – 8c) for each modified unit (Copy as necessary). Use Form CD-01 to document the proposed methods of compliance. Include a highlighted photocopy of the standard.
- 8a) Emission Unit/Equipment Description: \_\_\_\_\_
- 8b) Stack/Vent Number: \_\_\_\_\_
- 8c) Date of Modification (expected): \_\_\_\_\_ (mm/dd/yyyy)
- 9) Check all that apply
- ☐ If you answered “yes” or “no” to question 6) and “no” to question 7) or 8), a major amendment is not needed under Minn. R. 7007.1500, subp. 1.D. Answer “no” to Question 3c) on Form CH-03. Another type of permit amendment may be required.
- ☐ If you answered “yes” or “no” to question 6) and “yes” to question 8), this change or modification requires a major amendment under Minn. R. 7007.1500, subp. 1.D. Answer “yes” to Question 3c) on Form CH-03.
- ☐ If you answered “yes” to question 6) or 8), **but the total facility potential-to-emit remains below all permit thresholds**, you are required to obtain a permit only for the emission unit(s) subject to the Part 61 NESHAP.

## Instructions for Form CH-06

- 1a) **AQ Facility ID No.** -- Fill in your Air Quality Facility ID Number. This is the first eight digits of the permit number for all permits issued under the operating permit program.
- 1b) **AQ File No.** -- Fill in your AQ File Number. This number can be found in the “cc” section of correspondence from the Minnesota Pollution Control Agency (MPCA).
- 2) **Facility Name** -- Enter your facility name.
- 3) **Is there a Part 61 NESHAP for a source category which includes the unit(s) you are installing, modifying, or reconstructing?** -- If you know or suspect one of the standards listed in Table 1 may apply after your proposed change or modification, you should refer to the applicability section of the 40 CFR pt. 61 subpart and read the requirements to make a final determination. If the answer is “no,” then the answer to question 3c) on Form CH-03 is “no.”
- 4) **Which NESHAP?** -- For each unit where a Part 61 NESHAP may apply after the proposed project, indicate which NESHAP will apply, and whether it currently applies (it may currently apply to modified or reconstructed units, it will not currently apply to new units).
- 5) **Did you check “no” in column 4c) for any unit listed?** -- If you didn’t check “no” (you checked “yes” in 4c) for every new, modified, or reconstructed unit), this indicates that all of the Part 61 NESHAPs that may apply after the project already apply now, prior to the project. If that is the case, then the answer to question 3c) on Form CH-03 is no. If this is not the case, go on with this form for any unit for which “no” was checked in 4c).
- 6) **Installing new equipment which will cause a Part 61 National Emission Standard for Hazardous Air Pollutants (NESHAP) to apply?** -- If you determine that a Part 61 NESHAP will apply, complete items 6a) – 6c). Use Form GI-05B to provide details about the emissions unit (EU), and Form GI-04 to provide details about the stack (SV). Number both the EU and SV consecutively following the last number used for your total facility permit.
- 7) **Modifying an existing unit such that a Part 61 NESHAP will apply?** -- If the proposed change or modification involves physically modifying or changing the method of operation of an existing unit which may be subject to the NESHAP(s) identified in Question 4), go on to 7a).
- 7a) For each existing emission unit that is being changed, or for which the method of operation will be changed, determine if there will be an increase in hourly emissions. When doing the calculations, **do not take air pollution control equipment into account except as allowed by the standard or Minn. R 7007.1200.**
- 8) **Is there an increase in the emission rate of any of the pollutants regulated by the Part 61 NESHAP?** -- A modification for Part 61 NESHAP purposes is a physical change or change in method of operation which results in an increase in emission of one or more pollutants regulated by the individual NESHAP. If you determine that there is an increase in an emission rate of a pollutant regulated under the Part 61 NESHAP, the change is a “modification” under 40 CFR pt. 61, and you should complete items 8a) – 8c).
- 9) Check the appropriate box showing what permitting requirements the above questions have established.

If you answered “no” to question 7) or 8), indicating that you are not making any changes to existing units that result in increase in hourly emission rates, this means that the change is not a Title I modification under Minn. R. 7007.0100, subp. 26(D), and you can answer “no” to question 3c) on Form CH-03. *The change may still require a major amendment or another type of amendment.*



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-07**

**Applicability of Part 63 NESHAP for Amendments  
Air Quality Permit Program**

*Doc Type: Permit Application*

AQ Facility ID No.: 03700070

AQ File No.: 578

Facility Name: Sanimax USA, LLC

- 1) Are there or will there be Hazardous Air Pollutants (HAPs) emissions (listed on Table A) from any source affected by the proposed project?  
☐ No. Done with this form. Answer "No" to Question 3d on Form CH-03.  
☒ Yes. Go on to Question 2 of this form.
- 2) Are you proposing to install new HAP-emitting sources, or reconstruct existing equipment that will emit HAPs following the reconstruction? (This specifically means "reconstruction" as defined at 40 CFR § 63.2 – if you modify existing equipment without meeting the definition of "reconstruction," the answer to this question is "No.")  
☐ No. Done with this form. Answer "No" to Question 3d on Form CH-03.  
☒ Yes. Go on to Question 3 of this form.
- 3) Is the currently-permitted facility a major HAP source (considering potential emissions and all existing federally enforceable permit conditions)?  
☒ No. Go on to Question 4.  
☐ Yes. Go to Question 7.
- 4) Will the new or reconstructed items (those affected by the modification) have the potential to emit 10 or more tons per year of any individual HAP, or 25 or more tons per year of total HAPs, before considering any limits the source may be subject to or limits you may propose later in this form?  
☒ No. Go on to Question 5.  
☐ Yes. Go to Question 6.
- 5) Will the facility as modified be a major source of HAP emissions after your proposed change, before considering any limiting conditions you may propose later in this form?  
☒ No. Go to Question 10.  
☐ Yes. Go on to Question 6.
- 6) It is possible to avoid becoming a major HAP source by proposing federally enforceable permit conditions to limit your potential HAP emissions from the entire facility (as modified) to less than 10 tons per year for each HAP and/or 25 tons per year for all HAPs combined. Do you want to accept permit limitations on HAPs to avoid becoming a major HAP source?  
☐ No. Go on to question 7.  
☐ Yes. **Briefly describe the limitations** you would be willing to accept so that your HAP emissions will be less than 10 tons per year for each HAP and less than 25 tons per year for all HAPs combined (use a separate sheet if needed). Description must include each of the HAP pollutants. Include your proposed limit, monitoring, recordkeeping, and reporting on Form CD-01. You must answer "Yes" to Question 6 on Form CH-03. Then go to Question 10 of this form.

- 7) Will any of the new or reconstructed items be subject to any of the standards for major source categories listed in Table B? Also consider whether any existing, non-modified parts of the facility are subject to one or more of the standards listed in Table B; if so, and the standard is not already included in your existing permit, include those sources and standards here as well.

- ☐ No. Go on to Question 8.  
☐ Yes. List the source categories applicable to each new, reconstructed, or existing HAP-emitting equipment.

| Source | (N)ew, (R)econstructed, or (E)xisting? (Check one)                               | Applicable Source Category (Subpart or Title) | Compliance Date |
|--------|----------------------------------------------------------------------------------|-----------------------------------------------|-----------------|
|        | <input type="checkbox"/> N <input type="checkbox"/> R <input type="checkbox"/> E |                                               |                 |
|        | <input type="checkbox"/> N <input type="checkbox"/> R <input type="checkbox"/> E |                                               |                 |
|        | <input type="checkbox"/> N <input type="checkbox"/> R <input type="checkbox"/> E |                                               |                 |
|        | <input type="checkbox"/> N <input type="checkbox"/> R <input type="checkbox"/> E |                                               |                 |

For each standard listed above, attach a copy of the National Emission Standards for Hazardous Air Pollutant (NESHAP) standard with the applicable parts highlighted. Also attach a copy of Subpart A with the applicable portions highlighted. If the applicable standard offers more than one compliance option, make it clear which one you are choosing.  
Go on to Question 8.

- 8) Will the new or reconstructed items (those affected by the proposed modification) have the potential to emit 10 or more tons per year of any individual HAP, or 25 or more tons per year of total HAPs, before considering any limits the source may be subject to?

- ☐ No. Done with this form. Answer "No" to Question 3d on Form CH-03.  
☐ Yes. Go on to Question 9 of this form. Answer "Yes" to Question 3d on Form CH-03.

- 9) Will any of the new or reconstructed items **not** be subject to any of the standards for major source categories listed in Table B?

- ☐ No. Done with this form.  
☐ Yes. List them here. Done with this form.

**HAP-emitting units with no applicable source category in Table B.**

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For those HAP-emitting units listed above, you must propose a case-by-case MACT determination meeting the requirements of 40 CFR § 63.43. Contact the Minnesota Pollution Control Agency (MPCA) for information about proposing a case-by-case MACT determination for approval.

- 10) Some non-major HAP sources will be subject to requirements of NESHAPs called "area source" NESHAPs. Will the proposed new or reconstructed units belong to any of the area source categories listed below?

- ☐ No. Done with this form. Answer "No" to Question 3d on Form CH-03.  
☒ Yes. Place a check in the box next to that category, and read the specified NESHAP for Source Categories to determine all applicable requirements for area sources. Attach a copy of each applicable subpart of the NESHAP for area source categories, and highlight the applicable requirements in each applicable subpart. Done with this form. Answer "No" to Question 3d on Form CH-03.

- ☐ Acrylic and Modacrylic Fibers Production, 40 CFR § 63 Subpart LLLLLL  
☐ Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR § 63 Subpart AAAAAA  
☐ Carbon Black Production, 40 CFR § 63 Subpart MMMMMM  
☐ Chemical Manufacturing Area Sources, 40 CFR § 63 Subpart VVVVVV  
☐ Chemical Manufacturing: Chromium Compounds, 40 CFR § 63 Subpart NNNNNN  
☐ Chemical Preparations Industry, 40 CFR § 63 Subpart BBBB BB  
☐ Chromic acid anodizing (**Chromium Electroplating**), 40 CFR § 63 Subpart N  
☐ Clay Ceramics Manufacturing, 40 CFR § 63 Subpart RRRRRR  
☐ Commercial dry cleaning (Perc) transfer machines, 40 CFR § 63 Subpart M  
☐ Commercial sterilization facilities, 40 CFR § 63 Subpart O  
☐ Decorative chromium electroplating (**Chromium Electroplating**), 40 CFR § 63 Subpart N

- ☐ Electric Arc Furnace Steelmaking Facilities, 40 CFR § 63 Subpart YYYYYY
- ☐ Ferroalloys Production Facilities, 40 CFR § 63 Subpart YYYYYY
- ☐ Flexible Polyurethane Foam Production and Fabrication, 40 CFR § 63 Subpart OOOOOO
- ☐ Gasoline Dispensing Facilities, 40 CFR § 63 Subpart CCCCCC
- ☐ Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, 40 CFR § 63 Subpart BBBBBB
- ☐ Glass Manufacturing, 40 CFR § 63 Subpart SSSSSS
- ☐ Gold Mine Ore Processing and Production, 40 CFR § 63 Subpart EEEEEEE
- ☐ Halogenated solvent cleaners (Degreasing Organic Cleaners), 40 CFR § 63 Subpart T
- ☐ Hard chromium electroplating (**Chromium Electroplating**), 40 CFR § 63 Subpart N
- ☐ Hospital Sterilizers using Ethylene Oxides, 40 CFR § 63 Subpart WWWW
- ☒ Industrial, Commercial, and Institutional Boilers and Process Heaters – Area Sources. 40 CFR § 63 Subpart JJJJJJ
- ☐ Iron and Steel Foundries Area Sources, 40 CFR § 63 Subpart ZZZZZ
- ☐ Lead Acid Battery Manufacturing, 40 CFR § 63 Subpart PPPPPP
- ☐ Metal Fabrication and Finishing Sources, 40 CFR § 63 Subpart XXXXXX
- ☐ Nonferrous Foundries: Aluminum, Copper, and Other, 40 CFR § 63 Subpart ZZZZZZ
- ☐ Oil and natural gas production, 40 CFR § 63 Subpart HH
- ☐ Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR § 63 Subpart HHHHHH
- ☐ Paints and Allied Products Manufacturing, 40 CFR § 63 Subpart CCCCCC
- ☐ Plating and Polishing Operations, 40 CFR § 63 Subpart WWWW
- ☐ Polyvinyl Chloride and Copolymers Production, 40 CFR § 63 Subpart DDDDDD
- ☐ Prepared Feeds Manufacturing, 40 CFR § 63 Subpart DDDDDDD
- ☐ Primary Copper Smelting, 40 CFR § 63 Subpart EEEEEEE
- ☐ Primary Nonferrous Metals: Zinc, Cadmium, and Beryllium, 40 CFR § 63 Subpart GGGGGG
- ☐ Reciprocating Internal Combustion Engines, 40 CFR § 63 Subpart ZZZZ
- ☐ Secondary aluminum processing, 40 CFR § 63 Subpart RRR
- ☐ Secondary Copper Smelting, 40 CFR § 63 Subpart FFFFFFF
- ☐ Secondary Nonferrous Metals Processing (Brass, Bronze, Magnesium, Zinc), 40 CFR § 63 Subpart TTTTTT
- ☐ Wood Preserving, 40 CFR § 63 Subpart QQQQQQ



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

# CH-11

## Crossing Permit Thresholds Air Quality Permit Program

Doc Type: Permit Application

**Instructions on Page 3**

**1a)** AQ Facility ID number: 03700070

**1b)** AQ File number: 578

**2)** Facility name: Sanimax USA, LLC

Use this form to determine if the proposed changes cause the facility to become subject for the first time to the requirement to obtain either a State or a Part 70 permit. Please attach your documentation.

**3) Does the facility currently hold a Part 70 permit and after the proposed change the facility PTE will remain above the Part 70 threshold?**

☐ Yes – done with this form.

☒ No – Proceed to question 4. Include calculations supporting the facility PTE and permit status after the change.

**4) Table 1 – Total facility Potential-to-Emit (PTE) after proposed change**

☐ This project does not increase emissions; therefore there is no need to complete the table in item 4.

| Pollutant                              | PM <sub>10</sub><br>tpy | PM <sub>2.5</sub><br>tpy | SO <sub>2</sub><br>tpy | NO <sub>x</sub><br>tpy | CO<br>tpy | VOC<br>tpy | Lead<br>tpy | Single<br>HAP<br>tpy | Total<br>HAPs<br>tpy | CO <sub>2e</sub><br>tpy |
|----------------------------------------|-------------------------|--------------------------|------------------------|------------------------|-----------|------------|-------------|----------------------|----------------------|-------------------------|
| <b>Total facility PTE after change</b> | 39.6                    | 24.0                     | 64.4                   | 60.9                   | 43.5      | 24.6       | 2.59e-4     | 0.93                 | 0.98                 | 95,034                  |

☒ Calculations supporting Table 1 are attached. Proceed to question 5.

**5) Table 2 – Facility permit status before and after proposed change**

| Total facility PTE and permit status before change                                                                                                                                                                                                                                                      | Total facility PTE and permit status after change                                                                                                                         | Action required                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Below all permit thresholds                                                                                                                                                                                                                                                    | Remains below all permit thresholds and the change does not cause the source or any part to become subject to an NSPS (40 CFR pt. 60) or a Part 61 NESHAP (40 CFR pt. 61) | No permit action required                                                                                                                                                                      |
| <input type="checkbox"/> Below all permit thresholds                                                                                                                                                                                                                                                    | Remains below all permit thresholds but the change causes the source or any part to become subject to an NSPS (40 CFR pt. 60) or a Part 61 NESHAP (40 CFR pt. 61).        | Apply for and receive a permit only for those sources subject to that regulation. Check applicability of registration permit and general permit.                                               |
| <input type="checkbox"/> Below all permit thresholds                                                                                                                                                                                                                                                    | Exceeds a threshold for a State permit but not for a Part 70 permit.                                                                                                      | Apply for and receive a permit to construct before beginning actual construction of the change.<br>Apply for a state operating permit within 180 days after beginning operation of the change. |
| <input type="checkbox"/> Below all permit thresholds<br><input type="checkbox"/> Above a state permit threshold but below all Part 70 thresholds and facility holds a state operating permit                                                                                                            | Exceeds a threshold for a Part 70 permit                                                                                                                                  | Apply for and receive a permit to construct before beginning actual construction of the change.<br>Apply for a Part 70 permit within 365 days after beginning operation of the change.         |
| <input type="checkbox"/> Above a state permit threshold but below all Part 70 thresholds and facility holds a state operating permit                                                                                                                                                                    | Remains above a State permit threshold but below all Part 70 thresholds                                                                                                   | Apply for an amendment to your existing state operating permit.                                                                                                                                |
| <input type="checkbox"/> Above a state or Part 70 permit threshold but facility does not hold a state or Part 70 operating permit                                                                                                                                                                       | Remains above Part 70 Threshold                                                                                                                                           | Apply for and receive a Part 70 operating permit before beginning actual construction of the change.                                                                                           |
| <input type="checkbox"/> Above a state permit threshold and below all Part 70 thresholds but facility does not hold a state operating permit<br><input checked="" type="checkbox"/> Above state and Part 70 permit thresholds but facility does <del>not</del> hold a state or Part 70 operating permit | Remains above a State permit threshold but below all Part 70 thresholds                                                                                                   | Apply for and receive a state operating permit before beginning actual construction of the change.                                                                                             |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-13**

**Applicability Of State Rules  
Air Quality Permit Program**

*Doc Type: Permit Application*

**1a)** AQ Facility ID No.: 03700070

**1b)** AQ File No. 578

**2)** Facility Name: Sanimax USA, LLC

Some businesses and activities in Minnesota are subject to the following rules. Read each question to determine if the rule applies to the equipment or processes you are installing or modifying. If so, be sure to include the rule in Form CD-01, if you are required to fill it out for this application.

**3) Minnesota Standards of Performance for Stationary Sources** (Minn. R. ch. 7011)

**3a)** Will you be installing or modifying equipment that meets the following definition?

"A furnace, boiler or other combustion equipment in Minnesota which burns fossil fuel for the purpose of producing steam, hot water, hot air, or other hot liquid, gas, or solid, where the smoke doesn't have direct contact with the heated medium for which another standard of performance has not been promulgated."

☐ No, my new or modified equipment **is not** subject to Minn. R. 7011.0500-7011.0551. Go to question 3b).

☒ Yes. Is or will the unit(s) be subject to a federal New Source Performance Standard (as identified on Form CH-05)?

☒ Yes, my new or modified equipment **is not** subject to Minn. R. 7011.0500-7011.0551. Go to question 3b).

☐ No, my new or modified equipment **is** subject to Minn. R. 7011.0500-7011.0551. Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment. (Read the rule to determine the specific requirements that apply.) List the subject unit(s):

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**3b)** Is your new or modified equipment type or process equipment found in Table 3? This table contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference.

☒ No, none of the Minnesota Rules listed in Table 3 apply to my new or modified equipment. Go to question 4).

☐ Yes, my new or modified equipment may be subject to the rule associated with it in Table 3. Read the associated rule to see if it applies.

**3c)** After reading through Table 3 and any rule that may apply to your proposed change, list the ones that do apply in Table 1. Again, Table 3 contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference. You do not need to list the state rules that incorporate federal rules by reference. You do not need to list the Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment again, if it applies (see 3a, above).

**Table 1: New/Modified Equipment Subject to Minnesota Standards of Performance**

| Emission Source<br>ID Number | Minnesota Rule Part<br>that Applies | What the Rule Part Applies to<br>(Whole facility or Specific Piece of Equipment) |
|------------------------------|-------------------------------------|----------------------------------------------------------------------------------|
|                              |                                     |                                                                                  |
|                              |                                     |                                                                                  |
|                              |                                     |                                                                                  |
|                              |                                     |                                                                                  |
|                              |                                     |                                                                                  |
|                              |                                     |                                                                                  |
|                              |                                     |                                                                                  |
|                              |                                     |                                                                                  |
|                              |                                     |                                                                                  |
|                              |                                     |                                                                                  |



**4) Minnesota Acid Deposition Control (Minn. R. 7021.0050)**

- 4a) Does your facility generate electricity?  
☒ No. My facility is not subject to Acid Deposition Control Requirements. Go to question 5.  
☐ Yes. Go to question 4b).
- 4b) Does your facility contain indirect heating equipment with a rated heat input of more than 5,000 million BTUs per hour?  
☐ No. Go to question 4c).  
☐ Yes. My facility (and possibly my proposed change) is subject to Acid Deposition Control Requirements.
- 4c) If your facility is an electric utility, is the total generating capacity of all the electric generating facilities in Minnesota which are owned by your facility's parent company more than 1,000 megawatts?  
☐ No. My facility is not subject to Acid Deposition Control Requirements.  
☐ Yes. My facility (and possibly my proposed change) is subject to Acid Deposition Control Requirements.

**5) Standards of Performance for Industrial Process Equipment (Minn. R. 7011.0700 - 7011.0735)**

- 5a) Are you installing or modifying any industrial process equipment on-site that may generate any air contaminant in any amount and is not regulated by a federal New Source Performance Standard or MN Rules Standard of Performance?  
☐ Yes. List the units in Table 2, then go to item 5b).  
☒ No, my new or modified equipment is not subject to the Industrial Process Equipment rule. Go to question 6).
- 5b) **Opacity Standard**  
(Note: Opacity is a measure of visible emissions or how much of the view is obscured by stack emissions. The emissions causing opacity are often smoke or dust.)
- For industrial process equipment which was *in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity, except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent.
  - For industrial process equipment which was *not in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity.
- 5c) Does any of the industrial process equipment you listed in Table 2 have particulate control equipment with a collection efficiency of at least 99 percent if it was in operation before July 9, 1969, or 99.7 percent if it was not in operation before July 9, 1969?  
☐ No. Go to question 5d).  
☐ Yes. These units are considered to be in compliance with the remaining requirements of this rule.
- For those units meeting this criterion which were in operation before July 9, 1969, complete Table 2 by checking the box labeled "Collection Efficiency > 99%."
  - For those units meeting this criterion which were not in operation before July 9, 1969, complete Table 2 by checking the box labeled "Collection Efficiency > 99.7%."
  - Then, if there are units listed in Table 2 which are not controlled by control equipment with a collection efficiency of 99% or 99.7% (as applicable), go on to question 5d).
- 5d) Has it been demonstrated that the operation of the entire facility is in compliance with all ambient air quality standards? This is typically shown through some level of computer dispersion modeling.  
☐ Yes. Go to question 5e).  
☐ No. Skip to item 5i).
- 5e) Is the facility located outside of the seven county Minneapolis-St. Paul metropolitan region?  
☐ Yes. Go to question 5f)  
☐ No. Skip to item 5i).
- 5f) Is the facility located outside of the city of Duluth?  
☐ Yes. Go to question 5g).  
☐ No. Skip to item 5i).
- 5g) Is the facility located at least 1/4 mile from any residence or public roadway?  
☐ Yes. Go to question 5h).  
☐ No. Skip to item 5i).
- 5h) Answer this question individually for each remaining unit listed in Table 2 (those which were not identified in item 5c) as being controlled by control equipment having a control efficiency of 99% or 99.7% (as applicable)). Does the industrial process equipment have particulate control equipment with a collection efficiency of at least 85 percent?  
☐ Yes, the unit is considered to be in compliance with the remaining requirements of this rule. For each unit for which you can answer "yes" to question 5h), complete Table 2 by checking the box labeled "Outside MSP & Duluth, 1/4 mile from roads/residences, collection efficiency > 85%." Answer question 5h) for each remaining unit on Table 2.  
☐ No. For each unit for which you answered "No" to question 5h), complete Table 2 as described in item 5i). Then go to question 6).
- 5i) Complete Table 2 for all remaining industrial process equipment listed (those which were not identified in question 5c) as being controlled by control equipment having a control efficiency of 99% or 99.7% (as applicable)). Use Table 4 to determine the particulate limit in either pounds per hour (lb/hr) or grains per dry standard cubic foot (gr/dscf). Then go to question 6).

**Table 2: New/Modified Equipment Subject to Industrial Process Equipment Rule**

| Equipment Subject to Industrial Process Equipment Rule<br>(list EU number(s))                                                                             | Applicable Particulate Limit                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div> | <div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div> |
| <div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div> | <div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div> |
| <div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div> | <div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div> |
| <div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div> | <div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div> |
| <div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div> | <div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div> |
| <div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div> | <div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div> |
| <div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div> | <div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div> |
| <div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div> | <div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div> |
| <div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div> | <div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div> |

**6) Waste Combustors** (Minn. R. 7011.1201-7011.1290)

Note: Depending on the type of waste combustor you operate, you may be instructed to fill out one or more of the following forms:

- WC-01 -- Required if you determine that your waste combustor requires a permit.
- WC-02 -- Required if you install/operate a Class IV waste combustor at a hospital.
- WC-03 -- Required if you do not met the stack height requirements of Minn. R. 7011.1235.

If after reading through the following section, you determine that you are required to fill out one or more of the WC forms, contact the Air Quality Permit Document Coordinator.

**6a) Are you proposing installing or modifying a waste combustor?**

“Waste Combustor” means any emissions unit or emission facility where mixed municipal solid waste, solid waste, or refuse-derived fuel is combusted, and includes incinerators, energy recovery facilities, or other combustion devices. A metals recovery incinerator is a waste combustor. A combustion device combusting primarily wood, or at least 70 percent fossil fuel and wood in combination with up to 30 percent papermill wastewater treatment plant sludge is not a waste combustor. A soil treatment facility, paint burn-off oven, wood heater, or residential fireplace is not a waste combustor.

“Wood” is defined as: wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including sawdust, sander dust, wood chips, wood scraps, slabs, millings, shavings, and processed pellets made from wood and other forest residues.

A facility that is co-firing Refuse Derived Fuel (RDF) or Municipal Solid Waste (MSW) at rates less than 30 percent by weight is not regulated as a waste combustor, but is regulated as a boiler.

- ☐ Yes, I am installing or modifying a waste combustor. Answer questions 6b through 6e to determine whether you are allowed to continue to operate, and what type of permit the waste combustor requires. Allowed waste combustors must obtain an air emissions permit.
- ☒ No, the facility equipment is not subject to this rule. Done with this form.

**6b) Is the waste combustor solely a crematory, pathological or an animal carcass incinerator?**

- ☐ Yes. It is subject to standards of performance in Minn. R. 7011.1215, subp. 3. The waste combustor is an insignificant activity that does not need to be reported.
- ☐ No, the facility equipment is not subject to this rule.

**6c) Is the design capacity of the waste combustor equal to or greater than 3 million Btu/hr?**

“Design capacity” means: the hourly throughput of the waste combustor unit based on heat input from solid waste to the combustion system as stated by the manufacturer or designer, based on accepted design and engineering practices. For a non-continuous feed system, design capacity means the total heat input from solid waste per cycle. If you don't have a manufacturer's design capacity in terms of heat input, you may estimate heat input by the following formula:

$$H_{in} = (HHV) \times (R)$$

Where:

$H_{in}$  = Heat input rate

HHV = heat value of waste

R = waste input rate, in lb/hr, as defined by the manufacturer

Commercial/Retail/Institutional Wastes = 7000 Btu/lb

General Industrial Wastes = 9000 Btu/lb

Medical/Infectious Wastes = 10,000 Btu/lb

- ☐ Yes, the waste combustor has a design capacity of 3 million Btu/hr or greater. The waste combustor is subject to the standards of performance applicable to waste combustors. There are also additional permit application requirements for this unit, as described in Minn. R. 7007.0501, or 7011.1210. Complete form WC-01.
- ☐ No, the heat input rate is below 3 million Btu/hr. Go to question 6d.

**6d) Is the waste combustor used as a metal recover incinerator?**

“Metals recovery incinerator” means a furnace or incinerator used primarily to recover precious and non-precious metals by burning the combustible fraction from waste. An aluminum sweat furnace is not a metals recovery incinerator.

- ☐ Yes. The waste combustor is subject to the standards of performance applicable to waste combustors. There are also additional permit application requirements for this unit, as described in Minn. R. 7007.0501, or 7011.1210. Complete form WC-01.
- ☐ No. Go to question 6e).

6e) Is the waste combustor located at a hospital?

- ☐ Yes. The waste combustor is subject to the standards of performance applicable to Class IV waste combustors. There are also additional permit application requirements for this unit, as described in Minn. R. 7007.0501, or 7011.1210. Complete form WC-02 if the waste combustor will comply with all of the design, operating, and standards of performance in parts 7011.1201 to 7011.1290. Otherwise, an air emissions permit must be issued, and you must complete for WC-01. **[Please Note:** There are federal Standards of Performance that must also be met for new sources (see Form CH-05), and the state will be adopting more stringent standards for existing incinerators.]
- ☐ No, the waste combustor is not located at a hospital. The operation of this waste combustor was banned after January 30, 1996. Your compliance plan must contain specific steps to cease operation of this waste combustor.

**Table 3: Minnesota Standards of Performance for Stationary Sources\***

| Facility or Equipment Type                                             | Associated Minnesota Rule   |
|------------------------------------------------------------------------|-----------------------------|
| Direct Heating Equipment                                               | 7011.0600 through 7011.0625 |
| Concrete Manufacturing Plants                                          | 7011.0850 through 7011.0860 |
| Stage One Vapor Recovery                                               | 7011.0865 through 7011.0870 |
| Hot Mix Asphalt Plants                                                 | 7011.0900 through 7011.0925 |
| Bulk Agricultural Commodity Facilities (Grain Elevators)               | 7011.1000 through 7011.1015 |
| Coal Handling Facilities                                               | 7011.1100 through 7011.1140 |
| Incinerators (waste combustors)                                        | 7011.1201 through 7011.1285 |
| Petroleum Refineries                                                   | 7011.1400 through 7011.1430 |
| Liquid Petroleum and Volatile Organic Compounds (VOCs) Storage Vessels | 7011.1500 through 7011.1515 |
| Sulfuric Acid Plants                                                   | 7011.1600 through 7011.1630 |
| Nitric Acid Plants                                                     | 7011.1700 through 7011.1725 |
| Brass and Bronze Plants                                                | 7011.1900 through 7011.1915 |
| Iron and Steel Plants                                                  | 7011.2000 through 7011.2015 |
| Inorganic Fibrous Materials                                            | 7011.2100 through 7011.2105 |
| Stationary Internal Combustion Engine (Generators)                     | 7011.2300                   |
| Municipal Solid Waste Landfills                                        | 7011.3500 through 7011.3510 |
| Asbestos                                                               | 7011.9921 through 7011.9927 |

\* This table does not include Minnesota Rules which incorporate federal New Source Performance Standards (NSPS) or National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) by reference.

**Table 4: Instructions for determining your particulate limit**

Minnesota has a State rule for the concentration of particulate matter that may be in your exhaust stream. The unit of the standard is grains per dry standard cubic foot. You need to convert your actual exhaust flow to dry standard cubic feet per minute to find the emission limit from the rule.

Sources subject to this rule are required to meet the emission limits established at all times. These limits will vary depending on operating conditions. To determine compliance at any point in time (i.e. for a stack test), follow the steps below:

- Determine the amount of dry material (subtract any water or moisture content) in pounds per hour that is processed by your equipment.
- Use Table 4.1 to determine your allowed emission rate based on process weight rate. If your process weight rate falls between two values on the table, interpolate or extrapolate using the equation:

$$E = 3.59 \times \left( \frac{P}{2000} \right)^{0.62} \quad \text{for} \quad P \leq 60,000 \text{ lbs/hour; and:}$$

$$E = 17.31 \times \left( \frac{P}{2000} \right)^{0.16} \quad \text{for} \quad P > 60,000 \text{ lbs/hour}$$

where: E = emission rate in lbs/hour; and  
P = process weight rate in lbs/hour

- If your process equipment is vented to the atmosphere, determine the airflow through your stack. Correct to 68 F and 14.7 psi, and correct to remove any moisture in the gas stream to obtain the air flow in dry standard cubic feet per minute (dscfm).

4. Use Table 4.2 to determine your allowed concentration in grains per dry standard cubic foot (gr/dscf). Interpolate using the equation:

$$c = 1.7627 \times V^{-0.3241}$$

where: c = concentration in gr/dscf,  
V = gas volume in dscfm

5. Determine which of the two emission rates calculated above is *less stringent*. To convert a concentration (calculated in step 4) to an emission rate (calculated in step 2), use the following equation:

$$E = c \times V \times \left( \frac{60}{7000} \right)$$

where:

E = emission rate in lbs/hour;  
c = concentration in gr/dscf,  
V = gas volume in dscfm

**Table 4.1**

| Process Rate<br>(lbs/hour) | Emission Rate<br>(lbs/hour) |
|----------------------------|-----------------------------|
| 100                        | 0.55                        |
| 500                        | 1.53                        |
| 1,000                      | 2.25                        |
| 5,000                      | 6.34                        |
| 10,000                     | 9.73                        |
| 20,000                     | 14.99                       |
| 60,000                     | 29.60                       |
| 80,000                     | 31.19                       |
| 120,000                    | 33.28                       |
| 160,000                    | 34.85                       |
| 200,000                    | 36.11                       |
| 400,000                    | 40.35                       |
| 1,000,000                  | 46.72                       |

**Table 4.2**

| Source Gas Volume<br>(dscfm) | Concentration<br>(gr/dscf) |
|------------------------------|----------------------------|
| 7,000 or less                | 0.100                      |
| 8,000                        | 0.096                      |
| 9,000                        | 0.092                      |
| 10,000                       | 0.089                      |
| 20,000                       | 0.071                      |
| 30,000                       | 0.062                      |
| 40,000                       | 0.057                      |
| 50,000                       | 0.053                      |
| 60,000                       | 0.050                      |
| 80,000                       | 0.045                      |
| 100,000                      | 0.042                      |
| 120,000                      | 0.040                      |
| 140,000                      | 0.038                      |
| 160,000                      | 0.036                      |
| 180,000                      | 0.035                      |
| 200,000                      | 0.034                      |
| 300,000                      | 0.030                      |
| 400,000                      | 0.027                      |
| 500,000                      | 0.025                      |
| 600,000                      | 0.024                      |
| 800,000                      | 0.021                      |
| 1,000,000 or more            | 0.020                      |

Regardless of the allowable emission rates calculated from Tables 4.1 and 4.2, no process equipment is allowed to emit more than 0.30 grains per standard cubic foot of exhaust gas.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CD-01**

Compliance Plan  
Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 7**

**Facility Information**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

**Submit a separate form for each Emission Unit/Tank/Fugitive Source or Group of Sources as necessary.**

3a) Emission Unit /Tank/Fugitive Source Identification Number(s): EU023

Associated Control Equipment Number(s): CE026

Associated Monitoring System(s) (CEMS or COMS): \_\_\_\_\_

Associated Stack/Vent Number(s): SV020

**OR**

3b) Group Description: \_\_\_\_\_

Emission Units/Tanks/Fugitive Sources Included in Group: \_\_\_\_\_

Control Equipment Included in Group: \_\_\_\_\_

Monitoring Systems (CEMS or COMS) Included in Group: \_\_\_\_\_

Stack/Vents Included in Group: \_\_\_\_\_

*CEMS = continuous emission monitoring system; COMS = continuous opacity monitoring system*

Use **Section A** of this form when you are applying for the first time for a new individual operating permit (federal or state). This includes:

- permits for construction of new facilities
- permits for existing facilities that are switching to an individual permit from a Registration Permit, Capped Permit, or General Permit
- permits for existing facilities subject to permitting for the first time

Use **Section B** of this form when you are applying for an amendment to an existing individual operating permit (federal or state).

In addition to this form, use **Form CD-05** to identify operating parameters of control equipment when you are applying for the first time for an individual operating permit, or when applying for an amendment to an existing individual operating permit.

**Section A - Compliance Plan for a New Individual Operating Permit**

**4) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories (40 CFR Part 63)**

4a) On Form GI-09A, did you identify a Part 63 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 4b.

☐ Yes. Attach a copy of each applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart.

☐ Attached ☐ Not attached

4b) On Form GI-09A, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 4c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 4c) On Form GI-09A, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 5.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

## 5) National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61)

- 5a) On Form GI-09B, did you identify a Part 61 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 6.
- ☐ Yes. Attach a highlighted copy of each applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 6) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 6a) If required to complete Form GI-09D, did you identify a New Source Performance Standard that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 7.
- ☐ Yes. Attach a copy of each applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 7) Acid Rain Requirements (40 CFR Part 72)

- 7a) On Form GI-09 or GI-09E, did you identify that the acid rain requirements are applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 8.
- ☐ Yes. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to U.S. Environmental Protection Agency (EPA) as appropriate
- ☐ Not attached

## 8) New Source Review (40 CFR Part 52.21)

- 8a) On Form GI-09C, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source under New Source Review, or so that portions of the proposed facility are not subject to certain elements of New Source Review?
- ☐ No. Go on to Question 8b.
- ☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 8b) Will the stationary source be permitted as a major source under New Source Review?
- ☐ No. Go on to Question 9.
- ☐ Yes. Go on to Question 8c.

8c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Control Technology (BACT) requirements?

☐ No. Go on to Question 9.

☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

## 9) Minnesota Standards of Performance (Minn. R. ch. 7011)

9a) On Form GI-09I, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 2a of Form GI-09I), any other industry specific Minnesota standard of performance (Table H of Form GI-09I), or to Minn. R 7011.0715 (item 4 of Form GI-09I)?

☐ No. Go on to Question 10.

☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

## 10) National or Minnesota Ambient Air Quality Standards (NAAQS or MAAQS)

10a) Is the item or group identified in Question 3a or 3b subject to an existing or proposed limit required in order to meet National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)? (This would be identified through modeling.)

☐ No. Go on to Question 11.

☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 11) Environmental Assessment Worksheets (EAW) and Air Emissions Risk Analysis (AERA)

11a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

☐ No.

☐ Yes: ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |



11b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

☐ No.

☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

12) Is there pollution control equipment associated with the item or group identified?

☐ No.

☐ Yes. Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Section B - Compliance Plan for an Amendment to an Existing Individual Operating Permit

13) To the extent that your proposed permit amendment consists of edits to existing permit language, you should attach to this form a copy of the relevant page(s) of the existing permit with proposed changes clearly marked.

Check one or more of the following statements, as applicable:

- ☐ All or part of the proposed permit changes for the item or group identified in Question 3a or 3b are shown by edits to the existing permit language, a copy of which is attached to this form. If you show all changes with the edits to the existing permit language, you are done with this form.
- ☐ Some of the proposed permit changes for the item or group identified in Question 3a or 3b cannot be shown by simply marking up existing permit language, so I am answering the questions below.
- ☒ New requirements to existing equipment are inclusively shown by including a highlighted copy of the applicable rule. If the highlighted rule does not include all requirements (e.g. control equipment operating requirements), or if newly applicable requirements cannot be exclusively shown with a highlighted version of the rule, answer the questions below.

For any proposed changes that cannot be easily and clearly shown by submitting marked-up pages from your existing permit, answer the questions that follow.

14) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) for Source Categories (40 CFR Part 63)

14a) On CH-07, did you identify a newly applicable Part 63 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 14b.

☒ Yes. Attach a copy of each newly applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☒ Attached ☐ Not attached

14b) On Form CH-07, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☒ No. Go on to Question 14c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

14c) On Form CH-07, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?

- ☒ No. Go on to Question 15.  
☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.  
☐ Attached ☐ Not attached

#### 15) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) (40 CFR Part 61)

15a) On Form CH-06, did you identify a newly applicable Part 61 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

- ☒ No. Go on to question 16.  
☐ Yes. Attach a highlighted copy of each newly applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

#### 16) New Source Performance Standards (NSPS) (40 CFR Part 60)

16a) On Form CH-05, did you identify a newly applicable New Source Performance Standard for the item or group identified in Question 3a or 3b (of this form)?

- ☐ No. Go on to question 17.  
☒ Yes. Attach a copy of each newly applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the subparts. ☒ Attached ☐ Not attached

#### 17) Acid Rain Requirements (40 CFR Part 72)

17a) Does the unit or group identified in Question 3a or 3b include new electricity generating equipment capable of generating 25 MW or more of electricity?

- ☒ No. Go on to question 18.  
☐ Yes. The equipment may be subject to acid rain requirements. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.  
☐ Applicable Forms attached and sent to EPA as appropriate ☐ Not attached

#### 18) New Source Review (40 CFR Part 52.21)

18a) On Form CH-04, CH-04a, CH-04b, or CH-04d, did you indicate the intention to propose limits on the item or group identified in Question 3a or 3b (of this form) so that the proposed modification is not subject to New Source Review, or so that entire facility is not a major source under New Source Review, or so that portions of the facility or modification are not subject to certain elements of New Source Review? (If you are proposing limits, but on an item or group other than identified in Question 3a or 3b of this form, then answer **No**; complete a separate CD-01 for the item or group for which you are proposing limits)

- ☒ No. Go on to Question 18b.  
☐ Yes. Below, list the limit(s) you are proposing, including the proposed compliance demonstration. Then go on to Question 19.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

18b) Is the unit or group identified in Question 3a or 3b (of this form) subject to New Source Review? This would be determined on Form CH-04b or CH-04d.

- ☒ No. Go on to Question 19.  
☐ Yes. Go on to Question 18c.

18c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Technology (BACT) requirements?

- ☐ No. Go on to Question 19.  
☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

### 19) Minnesota Standards of Performance (Minn. R. ch. 7011)

19a) On Form CH-13, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 3a of Form CH-13), any other industry specific Minnesota standard of performance (Table 1 of Form CH-13), or to Minn. R 7011.0715 (item 5 of Form CH-13)?

- ☒ No. Go on to Question 20.  
☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

### 20) National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)

20a) Will the item or group identified in Question 3a or 3b be subject to a limit required in order to meet NAAQS or MAAQS? (This would be identified through modeling.)

- ☐ No. Go on to Question 21.  
☒ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit                         | Proposed compliance demonstration             |
|----------------------------------------|-----------------------------------------------|
| PM2.5 less than or equal to 0.28 lb/hr | Burning only natural gas, no. 2 fuel, propane |
|                                        |                                               |
|                                        |                                               |
|                                        |                                               |

### 21) Environmental Assessment Worksheet (EAW) and Air Emission Risk Analysis (AERA)

21a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☒ No.  
☐ Yes. ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

21b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

- ☒ No.  
☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 22) Is there pollution control equipment associated with the item or group identified?

- ☐ No      ☒ Yes – Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Instructions for Form CD-01

This form is intended to be used for applications for new individual permits for new facilities, for applications for new individual permits for existing facilities, and for applications for amendments to existing individual permits. It is not intended to be used for applications for reissuance of an existing permit.

Use Form CD-05 to describe operating parameters of control equipment.

### Organization

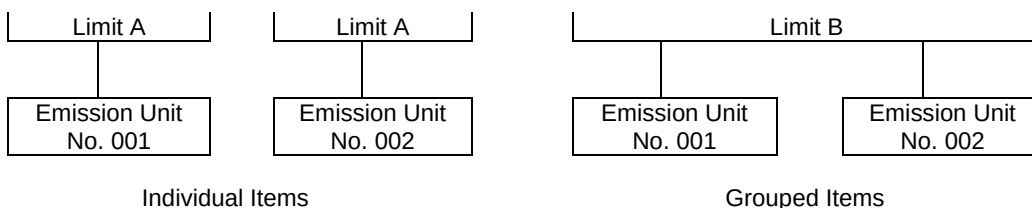
Form CD-01 requires you to organize your compliance plan based on how different portions of your facility are affected by the applicable requirements you identified in the Form GI-09 series. Form CD-01 requires that all applicable requirements listed on the form apply to all portions of the facility listed on the form. Therefore, you will find that you probably will need to use more than one form for your facility. Use as many copies of the forms as you need until you have covered all state and federal rules and regulations that apply to your facility.

Once you determine which portions of your facility have applicable requirements in common, you can then proceed to fill out your CD-01 forms as follows:

- 1) AQ Facility ID No. -- Fill in your Air Quality Facility ID Number as indicated on Form GI-01, item 1a.
- 2) Facility Name -- Enter your facility name as indicated on Form GI-01, item 2.
- 3) Use item 3a when you are filling out the form for an individual item or several individual items, all of which are individually subject to the same requirements. Use item 3b when you are using the form for a group of items that when combined are subject to a common requirement. See examples below:

**3a)** An example of individual items you would list on the same CD-01 form would be two boilers that were each individually subject to the same applicable requirement. Both boilers could have identical limits, but because the limits would apply individually to each unit, they would be considered individual items (see drawing below).

**3b)** Items should be grouped when they share a common limit, as opposed to several individual items that each has its own limit (see drawing below). An example of grouped items would be two boilers limited to a total quantity of fuel that can be burned. An example of items that are not a group would be two stacks that each can not exceed three pounds per hour of particulate emissions. Even though the limit is exactly the same for each stack, this is not a group. Beginning with the number 001, assign a Group ID number to the first group and provide a brief description. Group ID numbers should be assigned sequentially for your entire facility, even though they will appear on more than one CD-01 form. For example, if you have five groups at your facility, you would assign them Group ID numbers 001-005.



### Section A or Section B

Use Section A when you are applying for a new individual operating permit, whether that's for construction of a new facility, a permit for an existing facility that's never needed a permit before, or a permit for a facility that holds a general permit, capped permit, or registration permit and now needs an individual permit.

When you are completing Section A, you will be referencing the GI-09 series of forms, where you identified, at a general level, the state and federal rules applicable to the facility. When you are completing Section B, you will be referencing the CH-xx series of forms, where you identified the same kind of information, but relative to changes to the existing facility.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CD-01**

Compliance Plan  
Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 7**

**Facility Information**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

**Submit a separate form for each Emission Unit/Tank/Fugitive Source or Group of Sources as necessary.**

3a) Emission Unit /Tank/Fugitive Source Identification Number(s): \_\_\_\_\_  
Associated Control Equipment Number(s): \_\_\_\_\_  
Associated Monitoring System(s) (CEMS or COMS): \_\_\_\_\_  
Associated Stack/Vent Number(s): \_\_\_\_\_

**OR**

3b) Group Description: Combustion Equipment Subject to Facility-Wide SO2 Limit  
Emission Units/Tanks/Fugitive Sources Included in Group: EU001, EU002, EU006, EU023  
Control Equipment Included in Group: \_\_\_\_\_  
Monitoring Systems (CEMS or COMS) Included in Group: \_\_\_\_\_  
Stack/Vents Included in Group: SV001, SV002, SV006, SV020

*CEMS = continuous emission monitoring system; COMS = continuous opacity monitoring system*

Use **Section A** of this form when you are applying for the first time for a new individual operating permit (federal or state). This includes:

- permits for construction of new facilities
- permits for existing facilities that are switching to an individual permit from a Registration Permit, Capped Permit, or General Permit
- permits for existing facilities subject to permitting for the first time

Use **Section B** of this form when you are applying for an amendment to an existing individual operating permit (federal or state).

In addition to this form, use **Form CD-05** to identify operating parameters of control equipment when you are applying for the first time for an individual operating permit, or when applying for an amendment to an existing individual operating permit.

**Section A - Compliance Plan for a New Individual Operating Permit**

**4) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories (40 CFR Part 63)**

4a) On Form GI-09A, did you identify a Part 63 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?

- ☐ No. Go on to Question 4b.
- ☐ Yes. Attach a copy of each applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart.
- ☐ Attached ☐ Not attached

4b) On Form GI-09A, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

- ☐ No. Go on to Question 4c.
- ☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 4c) On Form GI-09A, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 5.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.  
☐ Attached ☐ Not attached

**5) National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61)**

- 5a) On Form GI-09B, did you identify a Part 61 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 6.
- ☐ Yes. Attach a highlighted copy of each applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

**6) New Source Performance Standards (NSPS) (40 CFR Part 60)**

- 6a) If required to complete Form GI-09D, did you identify a New Source Performance Standard that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 7.
- ☐ Yes. Attach a copy of each applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

**7) Acid Rain Requirements (40 CFR Part 72)**

- 7a) On Form GI-09 or GI-09E, did you identify that the acid rain requirements are applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 8.
- ☐ Yes. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.  
☐ Applicable Forms attached and sent to U.S. Environmental Protection Agency (EPA) as appropriate  
☐ Not attached

**8) New Source Review (40 CFR Part 52.21)**

- 8a) On Form GI-09C, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source under New Source Review, or so that portions of the proposed facility are not subject to certain elements of New Source Review?
- ☐ No. Go on to Question 8b.
- ☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 8b) Will the stationary source be permitted as a major source under New Source Review?
- ☐ No. Go on to Question 9.
- ☐ Yes. Go on to Question 8c.

8c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Control Technology (BACT) requirements?

- ☐ No. Go on to Question 9.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

**9) Minnesota Standards of Performance (Minn. R. ch. 7011)**

9a) On Form GI-09I, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 2a of Form GI-09I), any other industry specific Minnesota standard of performance (Table H of Form GI-09I), or to Minn. R 7011.0715 (item 4 of Form GI-09I)?

- ☐ No. Go on to Question 10.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

**10) National or Minnesota Ambient Air Quality Standards (NAAQS or MAAQS)**

10a) Is the item or group identified in Question 3a or 3b subject to an existing or proposed limit required in order to meet National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)? (This would be identified through modeling.)

- ☐ No. Go on to Question 11.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

**11) Environmental Assessment Worksheets (EAW) and Air Emissions Risk Analysis (AERA)**

11a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes: ☐ To avoid an AERA and/or ☐ To avoid an EAW  
List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

11b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

☐ No.

☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

12) Is there pollution control equipment associated with the item or group identified?

☐ No.

☐ Yes. Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Section B - Compliance Plan for an Amendment to an Existing Individual Operating Permit

13) To the extent that your proposed permit amendment consists of edits to existing permit language, you should attach to this form a copy of the relevant page(s) of the existing permit with proposed changes clearly marked.

Check one or more of the following statements, as applicable:

- ☒ All or part of the proposed permit changes for the item or group identified in Question 3a or 3b are shown by edits to the existing permit language, a copy of which is attached to this form. If you show all changes with the edits to the existing permit language, you are done with this form.
- ☐ Some of the proposed permit changes for the item or group identified in Question 3a or 3b cannot be shown by simply marking up existing permit language, so I am answering the questions below.
- ☐ New requirements to existing equipment are inclusively shown by including a highlighted copy of the applicable rule. If the highlighted rule does not include all requirements (e.g. control equipment operating requirements), or if newly applicable requirements cannot be exclusively shown with a highlighted version of the rule, answer the questions below.

For any proposed changes that cannot be easily and clearly shown by submitting marked-up pages from your existing permit, answer the questions that follow.

14) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) for Source Categories (40 CFR Part 63)

14a) On CH-07, did you identify a newly applicable Part 63 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 14b.

☐ Yes. Attach a copy of each newly applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

14b) On Form CH-07, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 14c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |



14c) On Form CH-07, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?

- ☐ No. Go on to Question 15.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

#### 15) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) (40 CFR Part 61)

15a) On Form CH-06, did you identify a newly applicable Part 61 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

- ☐ No. Go on to question 16.
- ☐ Yes. Attach a highlighted copy of each newly applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

#### 16) New Source Performance Standards (NSPS) (40 CFR Part 60)

16a) On Form CH-05, did you identify a newly applicable New Source Performance Standard for the item or group identified in Question 3a or 3b (of this form)?

- ☐ No. Go on to question 17.
- ☐ Yes. Attach a copy of each newly applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the subparts. ☐ Attached ☐ Not attached

#### 17) Acid Rain Requirements (40 CFR Part 72)

17a) Does the unit or group identified in Question 3a or 3b include new electricity generating equipment capable of generating 25 MW or more of electricity?

- ☐ No. Go on to question 18.
- ☐ Yes. The equipment may be subject to acid rain requirements. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to EPA as appropriate ☐ Not attached

#### 18) New Source Review (40 CFR Part 52.21)

18a) On Form CH-04, CH-04a, CH-04b, or CH-04d, did you indicate the intention to propose limits on the item or group identified in Question 3a or 3b (of this form) so that the proposed modification is not subject to New Source Review, or so that entire facility is not a major source under New Source Review, or so that portions of the facility or modification are not subject to certain elements of New Source Review? (If you are proposing limits, but on an item or group other than identified in Question 3a or 3b of this form, then answer **No**; complete a separate CD-01 for the item or group for which you are proposing limits)

- ☐ No. Go on to Question 18b.
- ☐ Yes. Below, list the limit(s) you are proposing, including the proposed compliance demonstration. Then go on to Question 19.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

18b) Is the unit or group identified in Question 3a or 3b (of this form) subject to New Source Review? This would be determined on Form CH-04b or CH-04d.

- ☐ No. Go on to Question 19.
- ☐ Yes. Go on to Question 18c.

18c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Technology (BACT) requirements?

- ☐ No. Go on to Question 19.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

### 19) Minnesota Standards of Performance (Minn. R. ch. 7011)

19a) On Form CH-13, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 3a of Form CH-13), any other industry specific Minnesota standard of performance (Table 1 of Form CH-13), or to Minn. R 7011.0715 (item 5 of Form CH-13)?

- ☐ No. Go on to Question 20.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

### 20) National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)

20a) Will the item or group identified in Question 3a or 3b be subject to a limit required in order to meet NAAQS or MAAQS? (This would be identified through modeling.)

- ☐ No. Go on to Question 21.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

### 21) Environmental Assessment Worksheet (EAW) and Air Emission Risk Analysis (AERA)

21a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes. ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

21b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

- ☐ No.
- ☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 22) Is there pollution control equipment associated with the item or group identified?

- ☐ No      ☐ Yes – Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Instructions for Form CD-01

This form is intended to be used for applications for new individual permits for new facilities, for applications for new individual permits for existing facilities, and for applications for amendments to existing individual permits. It is not intended to be used for applications for reissuance of an existing permit.

Use Form CD-05 to describe operating parameters of control equipment.

### Organization

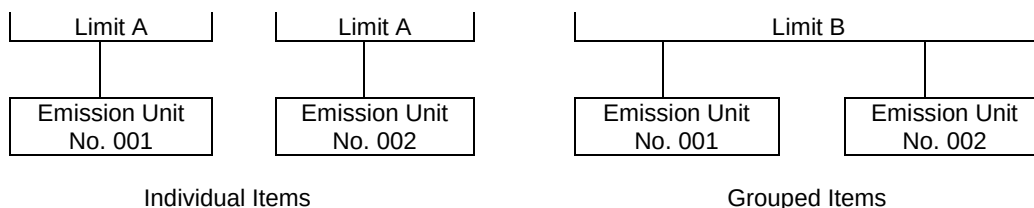
Form CD-01 requires you to organize your compliance plan based on how different portions of your facility are affected by the applicable requirements you identified in the Form GI-09 series. Form CD-01 requires that all applicable requirements listed on the form apply to all portions of the facility listed on the form. Therefore, you will find that you probably will need to use more than one form for your facility. Use as many copies of the forms as you need until you have covered all state and federal rules and regulations that apply to your facility.

Once you determine which portions of your facility have applicable requirements in common, you can then proceed to fill out your CD-01 forms as follows:

- 1) AQ Facility ID No. -- Fill in your Air Quality Facility ID Number as indicated on Form GI-01, item 1a.
- 2) Facility Name -- Enter your facility name as indicated on Form GI-01, item 2.
- 3) Use item 3a when you are filling out the form for an individual item or several individual items, all of which are individually subject to the same requirements. Use item 3b when you are using the form for a group of items that when combined are subject to a common requirement. See examples below:

**3a)** An example of individual items you would list on the same CD-01 form would be two boilers that were each individually subject to the same applicable requirement. Both boilers could have identical limits, but because the limits would apply individually to each unit, they would be considered individual items (see drawing below).

**3b)** Items should be grouped when they share a common limit, as opposed to several individual items that each has its own limit (see drawing below). An example of grouped items would be two boilers limited to a total quantity of fuel that can be burned. An example of items that are not a group would be two stacks that each can not exceed three pounds per hour of particulate emissions. Even though the limit is exactly the same for each stack, this is not a group. Beginning with the number 001, assign a Group ID number to the first group and provide a brief description. Group ID numbers should be assigned sequentially for your entire facility, even though they will appear on more than one CD-01 form. For example, if you have five groups at your facility, you would assign them Group ID numbers 001-005.



### Section A or Section B

Use Section A when you are applying for a new individual operating permit, whether that's for construction of a new facility, a permit for an existing facility that's never needed a permit before, or a permit for a facility that holds a general permit, capped permit, or registration permit and now needs an individual permit.

When you are completing Section A, you will be referencing the GI-09 series of forms, where you identified, at a general level, the state and federal rules applicable to the facility. When you are completing Section B, you will be referencing the CH-xx series of forms, where you identified the same kind of information, but relative to changes to the existing facility.

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-4**

01/18/11

Facility Name: Sanimax USA Inc

Permit Number: 03700070 - 006

**Subject Item:** GP 001 Combustion Equipment ~~Subject to Facility-Wide SO2 Limit~~**Associated Items:** EU 001 Boiler No. 1

EU 002 Ring/Blood Dryer

**EU 023 Boiler No. 3**

EU 006 Boiler No. 2

| What to do                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Why to do it                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>EMISSION LIMITS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | hdr                                                                                                                        |
| Sulfur Dioxide: less than or equal to 240 tons/year using 12-month Rolling Sum as described below in Equation 1 to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Title I Condition: To avoid major source classification and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000 |
| Equation 1:<br><br>$SO_2 = [(EF_{ng} \times S\%_{ng} \times VOL_{ng}) + (EF_r \times S\%_r \times VOL_r) + (EF_d \times S\%_d \times VOL_d) + (EF_{rafvo} \times S\%_{rafvo} \times VOL_{rafvo}) + (EF_b \times S\%_b \times VOL_b) + (EF_p \times S\%_p \times VOL_p) + (EF_g \times S\%_g \times VOL_g)] / 2000$<br>Where,<br><br>SO2 = annual sulfur dioxide emissions (tons per year)<br><br>Natural Gas --<br>EF <sub>ng</sub> = most recent US EPA-approved emission factor for SO2 emissions from natural gas combustion assuming all SO3 converts to SO2 (lb per gallon)<br>S <sub>r</sub> % = 12-month weighted average residual fuel oil sulfur content as certified by the supplier (percent by weight)<br>VOL <sub>r</sub> = volume of natural gas fired by the emission units in GP 001 using 12-month rolling sum (gallons per year) | Title I Condition: To avoid major source classification and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000 |
| <b>CONTINUED</b><br>Residual Fuel Oil --<br>EF <sub>r</sub> = most recent US EPA-approved emission factor for SO2 emissions from residual fuel oil combustion assuming all SO3 converts to SO2 (lb per gallon)<br>S <sub>r</sub> % = 12-month weighted average residual fuel oil sulfur content as certified by the supplier (percent by weight)<br>VOL <sub>r</sub> = volume of residual fuel oil fired by the emission units in GP 001 using 12-month rolling sum (gallons per year)                                                                                                                                                                                                                                                                                                                                                             | Title I Condition: To avoid major source classification and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000 |
| <b>CONTINUED</b><br>Distillate Fuel Oil --<br>EF <sub>d</sub> = most recent US EPA-approved emission factor for SO2 emissions from distillate fuel oil combustion assuming all SO3 converts to SO2 (lb per gallon)<br>S <sub>d</sub> % = 12-month weighted average distillate fuel oil sulfur content as certified by the supplier (percent by weight)<br>VOL <sub>d</sub> = volume of distillate fuel oil fired by the emission units in GP 001 using 12-month rolling sum (gallons per year)                                                                                                                                                                                                                                                                                                                                                     | Title I Condition: To avoid major source classification and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000 |
| <b>CONTINUED</b><br>Refined Animal Fats and Vegetable Oils (RAFVO) --<br>EF <sub>rafvo</sub> = most recent US EPA-approved emission factor for SO2 emissions based on distillate fuel oil combustion and assuming all SO3 converts to SO2 (lb per gallon)<br>S <sub>rafvo</sub> % = average RAFVO sulfur content as certified by laboratory analysis (percent by weight)<br>VOL <sub>rafvo</sub> = volume of RAFVO fired by the emission units in GP 001 using 12-month rolling sum (gallons per year)<br><br>2000 = conversion factor (lbs per ton)                                                                                                                                                                                                                                                                                               | Title I Condition: To avoid major source classification and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000 |
| <b>CONTINUED</b><br>Biodiesel --<br>EF <sub>b</sub> = most recent US EPA-approved emission factor for SO2 emissions based on distillate fuel oil combustion and assuming all SO3 converts to SO2 (lb per gallon)<br>S <sub>b</sub> % = average biodiesel sulfur content as certified by laboratory analysis (percent by weight)<br>VOL <sub>b</sub> = volume of biodiesel fired by the emission units in GP 001 using 12-month rolling sum (gallons per year)<br><br>2000 = conversion factor (lbs per ton)                                                                                                                                                                                                                                                                                                                                        | Title I Condition: To avoid major source classification and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000 |

# TABLE A: LIMITS AND OTHER REQUIREMENTS

A-5 01/18/11

Facility Name: Sanimax USA Inc

Permit Number: 03700070 - 006

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <p>CONTINUED</p> <p>Propane --</p> <p>EFp = most recent US EPA-approved emission factor for SO2 emissions from propane combustion assuming all SO3 converts to SO2 (lb per gallon)</p> <p>S%p = 12 month weighted average propane sulfur content as certified by the supplier (percent by weight)</p> <p>VOLp = volume of propane fired by the emission units in GP 001 using 12-month rolling sum (gallons per year)</p> <p>2000 = conversion factor (lbs per ton)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Title I Condition: To avoid major source classification and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000</p> |
| <p>CONTINUED</p> <p>Glycerin --</p> <p>EFg = most recent US EPA-approved emission factor for SO2 emissions based on distillate fuel oil combustion and assuming all SO3 converts to SO2 (lb per gallon), until a testing factor is determined based on the testing requirements below</p> <p>S%g = average glycerin sulfur content as certified by laboratory analysis (percent by weight)</p> <p>VOLg = volume of glycerin fired by the emission units in GP 001 using 12-month rolling sum (gallons per year)</p> <p>2000 = conversion factor (lbs per ton)</p>                                                                                                                                                                                                                                                                                                                                                                                | <p>Title I Condition: To avoid major source classification and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000</p> |
| <p>RECORDKEEPING REQUIREMENTS</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>hdr</p>                                                                                                                        |
| <p>Daily Recordkeeping -- SO2 Emissions:</p> <p>The Permittee shall gather and record the following information:</p> <ol style="list-style-type: none"> <li>1) Volume of residual fuel oil in gallons combusted in GP 001 for each day residual fuel oil is combusted in GP 001.</li> <li>2) Volume of distillate fuel oil in gallons combusted in GP 001 for each day distillate fuel oil is combusted in GP 001.</li> <li>3) Volume of refined animal fats and vegetable oils (RAFVO) in gallons combusted in GP 001 for each day RAFVO is combusted in GP 001.</li> <li>4) Volume of biodiesel in gallons combusted in GP 001 for each day biodiesel is combusted in GP 001.</li> <li>5) Volume of propane in gallons combusted in GP 001 for each day propane is combusted in GP 001.</li> <li>6) Volume of glycerin in gallons combusted in GP 001 for each day glycerin is combusted in GP 001.</li> </ol>                                 | <p>Title I Condition: To avoid major source classification and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000</p> |
| <p>Monthly Recordkeeping -- SO2 Emissions:</p> <p>By the 15th day of the month, the Permittee shall record and calculate the following:</p> <ol style="list-style-type: none"> <li>1) Volume of residual fuel oil in gallons combusted in GP 001 during the previous month, calculated by summing the data collected for each day residual fuel oil was combusted in GP 001.</li> <li>2) Volume of distillate fuel oil in gallons combusted in GP 001 during the previous month, calculated by summing the data collected for each day distillate fuel oil was combusted in GP 001.</li> <li>3) Volume of RAFVO in gallons combusted in GP 001 during the previous month, calculated by summing the data collected for each day RAFVO was combusted in GP 001.</li> </ol>                                                                                                                                                                        | <p>Minn. R. 7007.0800, subps. 4 and 5</p>                                                                                         |
| <p>CONTINUED</p> <ol style="list-style-type: none"> <li>4) Volume of biodiesel in gallons combusted in GP 001 during the previous month, calculated by summing the data collected for each day biodiesel was combusted in GP 001.</li> <li>5) Volume of propane in gallons combusted in GP 001 during the previous month, calculated by summing the data collected for each day propane was combusted in GP 001.</li> <li>6) Volume of glycerin in gallons combusted in GP 001 during the previous month, calculated by summing the data collected for each day glycerin was combusted in GP 001.</li> <li>7) SO2 emissions from residual fuel oil, distillate fuel oil, RAFVO, biodiesel, propane, and glycerin combustion from the previous 12 calendar months, calculated by using the data collected above from Items 1, 2, 3, 4, 5, 6, and 7 in Equation 1, and adding it the sum of the emissions data for the prior 11 months.</li> </ol> | <p>Minn. R. 7007.0800, subps. 4 and 5</p>                                                                                         |
| <p>Monthly Recordkeeping and Calculation- HAP Emissions: The Permittee shall maintain records and calculate the individual HAP and total HAP emissions on a monthly basis and 12-month rolling sum. Calculations shall be performed using MPCA approved emission factors as determined by performance test. HAPs recordkeeping and calculations shall performed after the initial glycerin and biodiesel testing are conducted.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>Minn. R. 7007.0800, subps. 4 and 5</p>                                                                                         |
| <p>FUEL TESTING REQUIREMENTS</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>hdr</p>                                                                                                                        |

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-6** 01/18/11

Facility Name: Sanimax USA Inc

Permit Number: 03700070 - 006

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Initial Performance Test for Glycerin Combustion: due within 30 days of commencing the burning of glycerin in EU 001, EU 002, or EU 006.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Minn. R. 7017.2020, subp. 1                                                         |
| Initial Performance Test for Biodiesel Combustion: due within 30 days of commencing the burning of biodiesel in EU 001, EU 002, or EU 006.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Minn. R. 7017.2020, subp. 1                                                         |
| Fuel Testing Restrictions: Test burns shall be done in accordance with an MPCA-approved test plan and limited to no more than 14 days of operation and a test period not to exceed 90 days.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Minn. R. 7007.0800, subp. 2                                                         |
| Fuel Testing Requirements: Test burns shall be conducted for glycerin and biodiesel to measure emissions of PM, PM10, Opacity, CO, NOx, SO2, HCL, VOCs, HAPs and other chemicals of potential interest as determined by the MPCA for the purpose of developing emission factors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Minn. R. 7007.0800, subp. 2                                                         |
| Fuel Testing Submittals: 30 days prior to testing glycerin or biodiesel, the Permittee shall submit a written performance test notification and test plan. The test plan shall:<br>1) meet the requirements of Minn. R. 7017.2030<br>2) include the type and estimated amount of fuels to be tested; operating parameters and anticipated fuel mixes during the test; air pollutants that will be measured during the testing; and a testing schedule, and<br><del>3) include an estimate of sulfur dioxide emissions based on analysis of the fuel for sulfur content.</del>                                                                                                                                                                                                                                                                                                                                                                     | Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018                                   |
| Performance Test Notifications and Submittals;<br><br>Performance Test Notification (written): due 30 days before each Performance Test<br>Performance Test Plan: due 30 days before each Performance Test<br>Performance Test Pre-Test Meeting: due 7 days before each Performance Test<br>Performance Test Report: due 45 days after each Performance Test<br>Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test.<br><br>The Notification, Test Plan, and Test Report may be submitted in alternate format as allowed by Minn. R. 7017.2018.                                                                                                                                                                                                                                                                                                                                                              | Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2 |
| ALTERNATIVE COMPLIANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | hdr                                                                                 |
| Authorization to Burn Glycerin and/or Biodiesel Fuels Tested Below Existing Permit Limits: Within 45 days of completion of the fuel test, the Permittee shall submit a written test report to the MPCA that characterizes emissions from the tested fuel. Specifically the report will describe whether use of the fuel can be accomplished while the Permittee remains under existing permit limits for criteria and hazardous air pollutants. Upon written approval from the MPCA, and receipt of the appropriate permit amendment when necessary where there may be an increase in criteria pollutant emissions in pounds per hour, the Permittee may commence the use of the tested fuel. For any tested fuel where compliance with existing permit limits cannot be demonstrated during its use, the Permittee may not use such a fuel until it has complied with the permit amendment requirements in Minn. R. 7007.1150 through 7007.1500. | Minn. R. 7007.0800 subp. 2                                                          |
| CONTINUED<br>If the tested fuel has emission factors higher than those specified but will not exceed 240.0 tpy of any individual criteria pollutant, 9.0 tpy of any HAP or 20.0 tons of total HAPs, upon written approval from the MPCA, and receipt of the appropriate permit amendment when necessary where there may be an increase in criteria pollutant emissions in pounds per hour, the Permittee may commence the use of the tested fuel using the tested emission factors as a limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Minn. R. 7007.0800, subp. 2                                                         |
| CONTINUED<br>If the tested fuel has emission factors higher than those specified and will exceed 240.0 tpy of any individual criteria pollutant, 9.0 tpy of any HAP or 20.0 tons of total HAPs, or there may be a significant increase in criteria pollutant emissions in pounds per hour, the Permittee must obtain an appropriate permit amendment prior to commencing the use of the tested fuel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Minn. R. 7007.0800, subp. 2                                                         |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CD-01**

Compliance Plan  
Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 7**

**Facility Information**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

**Submit a separate form for each Emission Unit/Tank/Fugitive Source or Group of Sources as necessary.**

3a) Emission Unit /Tank/Fugitive Source Identification Number(s): EU001

Associated Control Equipment Number(s): \_\_\_\_\_

Associated Monitoring System(s) (CEMS or COMS): \_\_\_\_\_

Associated Stack/Vent Number(s): SV001

**OR**

3b) Group Description: \_\_\_\_\_

Emission Units/Tanks/Fugitive Sources Included in Group: \_\_\_\_\_

Control Equipment Included in Group: \_\_\_\_\_

Monitoring Systems (CEMS or COMS) Included in Group: \_\_\_\_\_

Stack/Vents Included in Group: \_\_\_\_\_

*CEMS = continuous emission monitoring system; COMS = continuous opacity monitoring system*

Use **Section A** of this form when you are applying for the first time for a new individual operating permit (federal or state). This includes:

- permits for construction of new facilities
- permits for existing facilities that are switching to an individual permit from a Registration Permit, Capped Permit, or General Permit
- permits for existing facilities subject to permitting for the first time

Use **Section B** of this form when you are applying for an amendment to an existing individual operating permit (federal or state).

In addition to this form, use **Form CD-05** to identify operating parameters of control equipment when you are applying for the first time for an individual operating permit, or when applying for an amendment to an existing individual operating permit.

**Section A - Compliance Plan for a New Individual Operating Permit**

**4) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories (40 CFR Part 63)**

4a) On Form GI-09A, did you identify a Part 63 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 4b.

☐ Yes. Attach a copy of each applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart.

☐ Attached ☐ Not attached

4b) On Form GI-09A, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 4c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 4c) On Form GI-09A, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 5.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

## 5) National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61)

- 5a) On Form GI-09B, did you identify a Part 61 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 6.
- ☐ Yes. Attach a highlighted copy of each applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 6) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 6a) If required to complete Form GI-09D, did you identify a New Source Performance Standard that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 7.
- ☐ Yes. Attach a copy of each applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 7) Acid Rain Requirements (40 CFR Part 72)

- 7a) On Form GI-09 or GI-09E, did you identify that the acid rain requirements are applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 8.
- ☐ Yes. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to U.S. Environmental Protection Agency (EPA) as appropriate
- ☐ Not attached

## 8) New Source Review (40 CFR Part 52.21)

- 8a) On Form GI-09C, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source under New Source Review, or so that portions of the proposed facility are not subject to certain elements of New Source Review?
- ☐ No. Go on to Question 8b.
- ☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 8b) Will the stationary source be permitted as a major source under New Source Review?
- ☐ No. Go on to Question 9.
- ☐ Yes. Go on to Question 8c.



8c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Control Technology (BACT) requirements?

☐ No. Go on to Question 9.

☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

## 9) Minnesota Standards of Performance (Minn. R. ch. 7011)

9a) On Form GI-09I, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 2a of Form GI-09I), any other industry specific Minnesota standard of performance (Table H of Form GI-09I), or to Minn. R 7011.0715 (item 4 of Form GI-09I)?

☐ No. Go on to Question 10.

☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

## 10) National or Minnesota Ambient Air Quality Standards (NAAQS or MAAQS)

10a) Is the item or group identified in Question 3a or 3b subject to an existing or proposed limit required in order to meet National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)? (This would be identified through modeling.)

☐ No. Go on to Question 11.

☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 11) Environmental Assessment Worksheets (EAW) and Air Emissions Risk Analysis (AERA)

11a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

☐ No.

☐ Yes: ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

11b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

☐ No.

☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

12) Is there pollution control equipment associated with the item or group identified?

☐ No.

☐ Yes. Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Section B - Compliance Plan for an Amendment to an Existing Individual Operating Permit

13) To the extent that your proposed permit amendment consists of edits to existing permit language, you should attach to this form a copy of the relevant page(s) of the existing permit with proposed changes clearly marked.

Check one or more of the following statements, as applicable:

- ☒ All or part of the proposed permit changes for the item or group identified in Question 3a or 3b are shown by edits to the existing permit language, a copy of which is attached to this form. If you show all changes with the edits to the existing permit language, you are done with this form.
- ☐ Some of the proposed permit changes for the item or group identified in Question 3a or 3b cannot be shown by simply marking up existing permit language, so I am answering the questions below.
- ☒ New requirements to existing equipment are inclusively shown by including a highlighted copy of the applicable rule. If the highlighted rule does not include all requirements (e.g. control equipment operating requirements), or if newly applicable requirements cannot be exclusively shown with a highlighted version of the rule, answer the questions below.

For any proposed changes that cannot be easily and clearly shown by submitting marked-up pages from your existing permit, answer the questions that follow.

14) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) for Source Categories (40 CFR Part 63)

14a) On CH-07, did you identify a newly applicable Part 63 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 14b.

☐ Yes. Attach a copy of each newly applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☒ Attached ☐ Not attached

14b) On Form CH-07, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 14c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 14c) On Form CH-07, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 15.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

#### 15) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) (40 CFR Part 61)

- 15a) On Form CH-06, did you identify a newly applicable Part 61 NESHAP for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 16.
- ☐ Yes. Attach a highlighted copy of each newly applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

#### 16) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 16a) On Form CH-05, did you identify a newly applicable New Source Performance Standard for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 17.
- ☐ Yes. Attach a copy of each newly applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the subparts. ☐ Attached ☐ Not attached

#### 17) Acid Rain Requirements (40 CFR Part 72)

- 17a) Does the unit or group identified in Question 3a or 3b include new electricity generating equipment capable of generating 25 MW or more of electricity?
- ☐ No. Go on to question 18.
- ☐ Yes. The equipment may be subject to acid rain requirements. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to EPA as appropriate ☐ Not attached

#### 18) New Source Review (40 CFR Part 52.21)

- 18a) On Form CH-04, CH-04a, CH-04b, or CH-04d, did you indicate the intention to propose limits on the item or group identified in Question 3a or 3b (of this form) so that the proposed modification is not subject to New Source Review, or so that entire facility is not a major source under New Source Review, or so that portions of the facility or modification are not subject to certain elements of New Source Review? (If you are proposing limits, but on an item or group other than identified in Question 3a or 3b of this form, then answer **No**; complete a separate CD-01 for the item or group for which you are proposing limits)
- ☐ No. Go on to Question 18b.
- ☐ Yes. Below, list the limit(s) you are proposing, including the proposed compliance demonstration. Then go on to Question 19.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 18b) Is the unit or group identified in Question 3a or 3b (of this form) subject to New Source Review? This would be determined on Form CH-04b or CH-04d.
- ☐ No. Go on to Question 19.
- ☐ Yes. Go on to Question 18c.
- 18c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Technology (BACT) requirements?
- ☐ No. Go on to Question 19.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

## 19) Minnesota Standards of Performance (Minn. R. ch. 7011)

19a) On Form CH-13, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 3a of Form CH-13), any other industry specific Minnesota standard of performance (Table 1 of Form CH-13), or to Minn. R 7011.0715 (item 5 of Form CH-13)?

- ☐ No. Go on to Question 20.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

## 20) National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)

20a) Will the item or group identified in Question 3a or 3b be subject to a limit required in order to meet NAAQS or MAAQS? (This would be identified through modeling.)

- ☐ No. Go on to Question 21.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 21) Environmental Assessment Worksheet (EAW) and Air Emission Risk Analysis (AERA)

21a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes. ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

21b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

- ☐ No.
- ☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 22) Is there pollution control equipment associated with the item or group identified?

- ☐ No      ☐ Yes – Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Instructions for Form CD-01

This form is intended to be used for applications for new individual permits for new facilities, for applications for new individual permits for existing facilities, and for applications for amendments to existing individual permits. It is not intended to be used for applications for reissuance of an existing permit.

Use Form CD-05 to describe operating parameters of control equipment.

### Organization

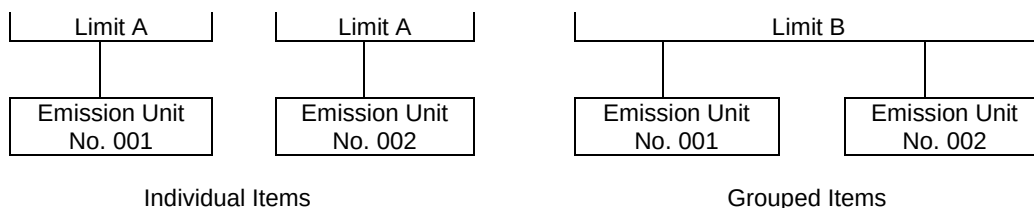
Form CD-01 requires you to organize your compliance plan based on how different portions of your facility are affected by the applicable requirements you identified in the Form GI-09 series. Form CD-01 requires that all applicable requirements listed on the form apply to all portions of the facility listed on the form. Therefore, you will find that you probably will need to use more than one form for your facility. Use as many copies of the forms as you need until you have covered all state and federal rules and regulations that apply to your facility.

Once you determine which portions of your facility have applicable requirements in common, you can then proceed to fill out your CD-01 forms as follows:

- 1) AQ Facility ID No. -- Fill in your Air Quality Facility ID Number as indicated on Form GI-01, item 1a.
- 2) Facility Name -- Enter your facility name as indicated on Form GI-01, item 2.
- 3) Use item 3a when you are filling out the form for an individual item or several individual items, all of which are individually subject to the same requirements. Use item 3b when you are using the form for a group of items that when combined are subject to a common requirement. See examples below:

**3a)** An example of individual items you would list on the same CD-01 form would be two boilers that were each individually subject to the same applicable requirement. Both boilers could have identical limits, but because the limits would apply individually to each unit, they would be considered individual items (see drawing below).

**3b)** Items should be grouped when they share a common limit, as opposed to several individual items that each has its own limit (see drawing below). An example of grouped items would be two boilers limited to a total quantity of fuel that can be burned. An example of items that are not a group would be two stacks that each can not exceed three pounds per hour of particulate emissions. Even though the limit is exactly the same for each stack, this is not a group. Beginning with the number 001, assign a Group ID number to the first group and provide a brief description. Group ID numbers should be assigned sequentially for your entire facility, even though they will appear on more than one CD-01 form. For example, if you have five groups at your facility, you would assign them Group ID numbers 001-005.



### Section A or Section B

Use Section A when you are applying for a new individual operating permit, whether that's for construction of a new facility, a permit for an existing facility that's never needed a permit before, or a permit for a facility that holds a general permit, capped permit, or registration permit and now needs an individual permit.

When you are completing Section A, you will be referencing the GI-09 series of forms, where you identified, at a general level, the state and federal rules applicable to the facility. When you are completing Section B, you will be referencing the CH-xx series of forms, where you identified the same kind of information, but relative to changes to the existing facility.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-11 01/18/11

Facility Name: Sanimax USA Inc

Permit Number: 03700070 - 006

**Subject Item:** EU 001 Boiler No. 1**Associated Items:** GP 001 Combustion Equipment ~~Subject to Facility Wide SO2 Limit~~

SV 001 Boiler No. 1

| What to do                                                                                                                                                                                                                                                                                                                                                                         | Why to do it                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMISSION LIMITS                                                                                                                                                                                                                                                                                                                                                                    | hdr                                                                                                                                                                                                                                                                                       |
| PM < 10 micron: less than or equal to <del>5.0 lbs/hour</del> using 3-hour Average<br><br><b>0.84 lbs/hour</b>                                                                                                                                                                                    | Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080 |
| PM < 2.5 micron: less than or equal to <del>3.3 lbs/hour</del> using 3-hour Average<br><br><b>0.56 lbs/hour</b>                                                                                                                                                                                   | Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080 |
| Total Particulate Matter: less than or equal to 0.40 lbs/million Btu heat input using 3-hour Rolling Average (maximum uncontrolled emissions from this unit are 0.11 lbs/million Btu heat input).                                                                                                                                                                                  | Minn. R. 7011.0515, subp. 1                                                                                                                                                                                                                                                               |
| Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input using 3-hour Rolling Average when burning <del>residual fuel oil</del> or refined animal fats & vegetable oils (maximum uncontrolled emissions from this unit are 1.59 lbs/million Btu heat input).<br><br><b>distillate</b> | Minn. R. 7011.0515, subp. 1                                                                                                                                                                                                                                                               |
| Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.                                                                                                                                                                                                                                                           | Minn. R. 7011.0515, subp. 2                                                                                                                                                                                                                                                               |
| Fuel usage: limited to natural gas, <del>residual oil</del> , distillate oil, animal fat/vegetable oil, propane, biodiesel, and glycerin.<br><br><b>"vegetable" (fix typo)</b>                                                                                                                   | Minn. R. 7007.0800, subps. 4 and 5                                                                                                                                                                                                                                                        |
| MONITORING AND RECORDKEEPING REQUIREMENTS                                                                                                                                                                                                                                                                                                                                          | hdr                                                                                                                                                                                                                                                                                       |
| See GP 001 for additional Monitoring and Recordkeeping requirements for EU 001.                                                                                                                                                                                                                                                                                                    | hdr                                                                                                                                                                                                                                                                                       |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CD-01**

Compliance Plan  
Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 7**

**Facility Information**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

**Submit a separate form for each Emission Unit/Tank/Fugitive Source or Group of Sources as necessary.**

3a) Emission Unit /Tank/Fugitive Source Identification Number(s): EU002

Associated Control Equipment Number(s): \_\_\_\_\_

Associated Monitoring System(s) (CEMS or COMS): \_\_\_\_\_

Associated Stack/Vent Number(s): SV002

**OR**

3b) Group Description: \_\_\_\_\_

Emission Units/Tanks/Fugitive Sources Included in Group: \_\_\_\_\_

Control Equipment Included in Group: \_\_\_\_\_

Monitoring Systems (CEMS or COMS) Included in Group: \_\_\_\_\_

Stack/Vents Included in Group: \_\_\_\_\_

*CEMS = continuous emission monitoring system; COMS = continuous opacity monitoring system*

Use **Section A** of this form when you are applying for the first time for a new individual operating permit (federal or state). This includes:

- permits for construction of new facilities
- permits for existing facilities that are switching to an individual permit from a Registration Permit, Capped Permit, or General Permit
- permits for existing facilities subject to permitting for the first time

Use **Section B** of this form when you are applying for an amendment to an existing individual operating permit (federal or state).

In addition to this form, use **Form CD-05** to identify operating parameters of control equipment when you are applying for the first time for an individual operating permit, or when applying for an amendment to an existing individual operating permit.

**Section A - Compliance Plan for a New Individual Operating Permit**

**4) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories (40 CFR Part 63)**

4a) On Form GI-09A, did you identify a Part 63 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 4b.

☐ Yes. Attach a copy of each applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart.

☐ Attached ☐ Not attached

4b) On Form GI-09A, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 4c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 4c) On Form GI-09A, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 5.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

## 5) National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61)

- 5a) On Form GI-09B, did you identify a Part 61 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 6.
- ☐ Yes. Attach a highlighted copy of each applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 6) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 6a) If required to complete Form GI-09D, did you identify a New Source Performance Standard that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 7.
- ☐ Yes. Attach a copy of each applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 7) Acid Rain Requirements (40 CFR Part 72)

- 7a) On Form GI-09 or GI-09E, did you identify that the acid rain requirements are applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 8.
- ☐ Yes. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to U.S. Environmental Protection Agency (EPA) as appropriate
- ☐ Not attached

## 8) New Source Review (40 CFR Part 52.21)

- 8a) On Form GI-09C, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source under New Source Review, or so that portions of the proposed facility are not subject to certain elements of New Source Review?
- ☐ No. Go on to Question 8b.
- ☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 8b) Will the stationary source be permitted as a major source under New Source Review?
- ☐ No. Go on to Question 9.
- ☐ Yes. Go on to Question 8c.



8c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Control Technology (BACT) requirements?

- ☐ No. Go on to Question 9.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

**9) Minnesota Standards of Performance (Minn. R. ch. 7011)**

9a) On Form GI-09I, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 2a of Form GI-09I), any other industry specific Minnesota standard of performance (Table H of Form GI-09I), or to Minn. R 7011.0715 (item 4 of Form GI-09I)?

- ☐ No. Go on to Question 10.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

**10) National or Minnesota Ambient Air Quality Standards (NAAQS or MAAQS)**

10a) Is the item or group identified in Question 3a or 3b subject to an existing or proposed limit required in order to meet National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)? (This would be identified through modeling.)

- ☐ No. Go on to Question 11.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
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|                |                                   |

**11) Environmental Assessment Worksheets (EAW) and Air Emissions Risk Analysis (AERA)**

11a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes: ☐ To avoid an AERA and/or ☐ To avoid an EAW  
List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

11b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

☐ No.

☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

12) Is there pollution control equipment associated with the item or group identified?

☐ No.

☐ Yes. Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Section B - Compliance Plan for an Amendment to an Existing Individual Operating Permit

13) To the extent that your proposed permit amendment consists of edits to existing permit language, you should attach to this form a copy of the relevant page(s) of the existing permit with proposed changes clearly marked.

Check one or more of the following statements, as applicable:

- ☒ All or part of the proposed permit changes for the item or group identified in Question 3a or 3b are shown by edits to the existing permit language, a copy of which is attached to this form. If you show all changes with the edits to the existing permit language, you are done with this form.
- ☐ Some of the proposed permit changes for the item or group identified in Question 3a or 3b cannot be shown by simply marking up existing permit language, so I am answering the questions below.
- ☐ New requirements to existing equipment are inclusively shown by including a highlighted copy of the applicable rule. If the highlighted rule does not include all requirements (e.g. control equipment operating requirements), or if newly applicable requirements cannot be exclusively shown with a highlighted version of the rule, answer the questions below.

For any proposed changes that cannot be easily and clearly shown by submitting marked-up pages from your existing permit, answer the questions that follow.

14) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) for Source Categories (40 CFR Part 63)

14a) On CH-07, did you identify a newly applicable Part 63 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 14b.

☐ Yes. Attach a copy of each newly applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

14b) On Form CH-07, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 14c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
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|                |                                   |

- 14c) On Form CH-07, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 15.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

#### 15) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) (40 CFR Part 61)

- 15a) On Form CH-06, did you identify a newly applicable Part 61 NESHAP for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 16.
- ☐ Yes. Attach a highlighted copy of each newly applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

#### 16) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 16a) On Form CH-05, did you identify a newly applicable New Source Performance Standard for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 17.
- ☐ Yes. Attach a copy of each newly applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the subparts. ☐ Attached ☐ Not attached

#### 17) Acid Rain Requirements (40 CFR Part 72)

- 17a) Does the unit or group identified in Question 3a or 3b include new electricity generating equipment capable of generating 25 MW or more of electricity?
- ☐ No. Go on to question 18.
- ☐ Yes. The equipment may be subject to acid rain requirements. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to EPA as appropriate ☐ Not attached

#### 18) New Source Review (40 CFR Part 52.21)

- 18a) On Form CH-04, CH-04a, CH-04b, or CH-04d, did you indicate the intention to propose limits on the item or group identified in Question 3a or 3b (of this form) so that the proposed modification is not subject to New Source Review, or so that entire facility is not a major source under New Source Review, or so that portions of the facility or modification are not subject to certain elements of New Source Review? (If you are proposing limits, but on an item or group other than identified in Question 3a or 3b of this form, then answer **No**; complete a separate CD-01 for the item or group for which you are proposing limits)
- ☐ No. Go on to Question 18b.
- ☐ Yes. Below, list the limit(s) you are proposing, including the proposed compliance demonstration. Then go on to Question 19.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
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- 18b) Is the unit or group identified in Question 3a or 3b (of this form) subject to New Source Review? This would be determined on Form CH-04b or CH-04d.
- ☐ No. Go on to Question 19.
- ☐ Yes. Go on to Question 18c.
- 18c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Technology (BACT) requirements?
- ☐ No. Go on to Question 19.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
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### 19) Minnesota Standards of Performance (Minn. R. ch. 7011)

19a) On Form CH-13, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 3a of Form CH-13), any other industry specific Minnesota standard of performance (Table 1 of Form CH-13), or to Minn. R 7011.0715 (item 5 of Form CH-13)?

- ☐ No. Go on to Question 20.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

### 20) National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)

20a) Will the item or group identified in Question 3a or 3b be subject to a limit required in order to meet NAAQS or MAAQS? (This would be identified through modeling.)

- ☐ No. Go on to Question 21.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

### 21) Environmental Assessment Worksheet (EAW) and Air Emission Risk Analysis (AERA)

21a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes. ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
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|                |                                   |
|                |                                   |

21b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

- ☐ No.
- ☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 22) Is there pollution control equipment associated with the item or group identified?

- ☐ No      ☐ Yes – Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Instructions for Form CD-01

This form is intended to be used for applications for new individual permits for new facilities, for applications for new individual permits for existing facilities, and for applications for amendments to existing individual permits. It is not intended to be used for applications for reissuance of an existing permit.

Use Form CD-05 to describe operating parameters of control equipment.

### Organization

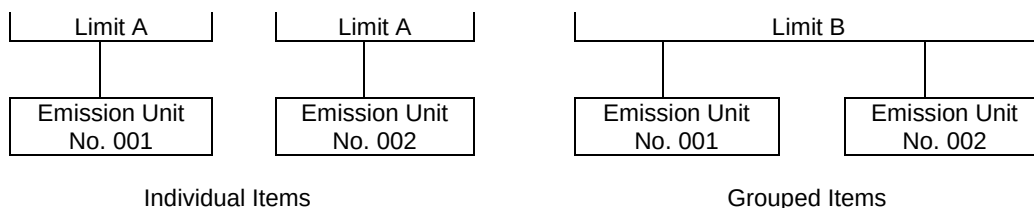
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Once you determine which portions of your facility have applicable requirements in common, you can then proceed to fill out your CD-01 forms as follows:

- 1) AQ Facility ID No. -- Fill in your Air Quality Facility ID Number as indicated on Form GI-01, item 1a.
- 2) Facility Name -- Enter your facility name as indicated on Form GI-01, item 2.
- 3) Use item 3a when you are filling out the form for an individual item or several individual items, all of which are individually subject to the same requirements. Use item 3b when you are using the form for a group of items that when combined are subject to a common requirement. See examples below:

**3a)** An example of individual items you would list on the same CD-01 form would be two boilers that were each individually subject to the same applicable requirement. Both boilers could have identical limits, but because the limits would apply individually to each unit, they would be considered individual items (see drawing below).

**3b)** Items should be grouped when they share a common limit, as opposed to several individual items that each has its own limit (see drawing below). An example of grouped items would be two boilers limited to a total quantity of fuel that can be burned. An example of items that are not a group would be two stacks that each can not exceed three pounds per hour of particulate emissions. Even though the limit is exactly the same for each stack, this is not a group. Beginning with the number 001, assign a Group ID number to the first group and provide a brief description. Group ID numbers should be assigned sequentially for your entire facility, even though they will appear on more than one CD-01 form. For example, if you have five groups at your facility, you would assign them Group ID numbers 001-005.



### Section A or Section B

Use Section A when you are applying for a new individual operating permit, whether that's for construction of a new facility, a permit for an existing facility that's never needed a permit before, or a permit for a facility that holds a general permit, capped permit, or registration permit and now needs an individual permit.

When you are completing Section A, you will be referencing the GI-09 series of forms, where you identified, at a general level, the state and federal rules applicable to the facility. When you are completing Section B, you will be referencing the CH-xx series of forms, where you identified the same kind of information, but relative to changes to the existing facility.

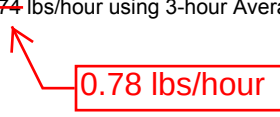
**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-12** 01/18/11

Facility Name: Sanimax USA Inc

Permit Number: 03700070 - 006

**Subject Item:** EU 002 Ring/Blood Dryer**Associated Items:** CE 001 Blood Process Venturi ScrubberGP 001 Combustion Equipment ~~Subject to Facility-Wide SO2 Limit~~

SV 002 Ring/Blood Dryer

| What to do                                                                                                                                                                                                                                                               | Why to do it                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMISSION LIMITS                                                                                                                                                                                                                                                          | hdr                                                                                                                                                                                                                                                                                       |
| PM < 10 micron: less than or equal to 1.3 lbs/hour using 3-hour Average .                                                                                                                                                                                                | Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080 |
| PM < 2.5 micron: less than or equal to <del>0.74</del> lbs/hour using 3-hour Average<br>                                                                                                | Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080 |
| Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot using 3-hour Rolling Average of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. | Minn. R. 7011.0610, subp. 1(A)(1)                                                                                                                                                                                                                                                         |
| Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input using 3-hour Rolling Average when burning distillate fuel oil (maximum uncontrolled emissions from this unit are 0.51 lbs/million Btu heat input).                                                  | Minn. R. 7011.0610, subp. 2(A)(2)                                                                                                                                                                                                                                                         |
| Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.                                                                                                                                                 | Minn. R. 7011.0610, subp. 1(A)(2)                                                                                                                                                                                                                                                         |
| Fuel usage: limited to natural gas, distillate oil, <del>animal fat/vegetable oil, propane, biodiesel, and glycerin.</del>                                                                                                                                               | Minn. R. 7007.8000, subp. 4 and 5                                                                                                                                                                                                                                                         |
| OPERATIONAL REQUIREMENTS                                                                                                                                                                                                                                                 | hdr                                                                                                                                                                                                                                                                                       |
| The Permittee shall vent emissions from EU 002 to CE 001 at all times EU 002 is in operation to meet applicable PM, PM10 and PM2.5 limits. The Permittee shall operate and maintain CE 001 at all times that any emission unit controlled by CE 001 is in operation.     | Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5                                                                                                                            |
| MONITORING AND RECORDKEEPING REQUIREMENTS                                                                                                                                                                                                                                | hdr                                                                                                                                                                                                                                                                                       |
| See GP 001 for additional Monitoring and Recordkeeping requirements for EU 002.                                                                                                                                                                                          | hdr                                                                                                                                                                                                                                                                                       |
| See CE 001 for additional Monitoring and Recordkeeping requirements for CE 001.                                                                                                                                                                                          | hdr                                                                                                                                                                                                                                                                                       |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CD-01**

Compliance Plan  
Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 7**

**Facility Information**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

**Submit a separate form for each Emission Unit/Tank/Fugitive Source or Group of Sources as necessary.**

3a) Emission Unit /Tank/Fugitive Source Identification Number(s): EU006

Associated Control Equipment Number(s): \_\_\_\_\_

Associated Monitoring System(s) (CEMS or COMS): \_\_\_\_\_

Associated Stack/Vent Number(s): SV006

**OR**

3b) Group Description: \_\_\_\_\_

Emission Units/Tanks/Fugitive Sources Included in Group: \_\_\_\_\_

Control Equipment Included in Group: \_\_\_\_\_

Monitoring Systems (CEMS or COMS) Included in Group: \_\_\_\_\_

Stack/Vents Included in Group: \_\_\_\_\_

*CEMS = continuous emission monitoring system; COMS = continuous opacity monitoring system*

Use **Section A** of this form when you are applying for the first time for a new individual operating permit (federal or state). This includes:

- permits for construction of new facilities
- permits for existing facilities that are switching to an individual permit from a Registration Permit, Capped Permit, or General Permit
- permits for existing facilities subject to permitting for the first time

Use **Section B** of this form when you are applying for an amendment to an existing individual operating permit (federal or state).

In addition to this form, use **Form CD-05** to identify operating parameters of control equipment when you are applying for the first time for an individual operating permit, or when applying for an amendment to an existing individual operating permit.

**Section A - Compliance Plan for a New Individual Operating Permit**

**4) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories (40 CFR Part 63)**

4a) On Form GI-09A, did you identify a Part 63 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 4b.

☐ Yes. Attach a copy of each applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart.

☐ Attached ☐ Not attached

4b) On Form GI-09A, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 4c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 4c) On Form GI-09A, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 5.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

## 5) National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61)

- 5a) On Form GI-09B, did you identify a Part 61 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 6.
- ☐ Yes. Attach a highlighted copy of each applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 6) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 6a) If required to complete Form GI-09D, did you identify a New Source Performance Standard that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 7.
- ☐ Yes. Attach a copy of each applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 7) Acid Rain Requirements (40 CFR Part 72)

- 7a) On Form GI-09 or GI-09E, did you identify that the acid rain requirements are applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 8.
- ☐ Yes. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to U.S. Environmental Protection Agency (EPA) as appropriate
- ☐ Not attached

## 8) New Source Review (40 CFR Part 52.21)

- 8a) On Form GI-09C, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source under New Source Review, or so that portions of the proposed facility are not subject to certain elements of New Source Review?
- ☐ No. Go on to Question 8b.
- ☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 8b) Will the stationary source be permitted as a major source under New Source Review?
- ☐ No. Go on to Question 9.
- ☐ Yes. Go on to Question 8c.



8c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Control Technology (BACT) requirements?

- ☐ No. Go on to Question 9.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

**9) Minnesota Standards of Performance (Minn. R. ch. 7011)**

9a) On Form GI-09I, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 2a of Form GI-09I), any other industry specific Minnesota standard of performance (Table H of Form GI-09I), or to Minn. R 7011.0715 (item 4 of Form GI-09I)?

- ☐ No. Go on to Question 10.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

**10) National or Minnesota Ambient Air Quality Standards (NAAQS or MAAQS)**

10a) Is the item or group identified in Question 3a or 3b subject to an existing or proposed limit required in order to meet National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)? (This would be identified through modeling.)

- ☐ No. Go on to Question 11.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

**11) Environmental Assessment Worksheets (EAW) and Air Emissions Risk Analysis (AERA)**

11a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes: ☐ To avoid an AERA and/or ☐ To avoid an EAW  
List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

11b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

☐ No.

☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

12) Is there pollution control equipment associated with the item or group identified?

☐ No.

☐ Yes. Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Section B - Compliance Plan for an Amendment to an Existing Individual Operating Permit

13) To the extent that your proposed permit amendment consists of edits to existing permit language, you should attach to this form a copy of the relevant page(s) of the existing permit with proposed changes clearly marked.

Check one or more of the following statements, as applicable:

- ☒ All or part of the proposed permit changes for the item or group identified in Question 3a or 3b are shown by edits to the existing permit language, a copy of which is attached to this form. If you show all changes with the edits to the existing permit language, you are done with this form.
- ☐ Some of the proposed permit changes for the item or group identified in Question 3a or 3b cannot be shown by simply marking up existing permit language, so I am answering the questions below.
- ☒ New requirements to existing equipment are inclusively shown by including a highlighted copy of the applicable rule. If the highlighted rule does not include all requirements (e.g. control equipment operating requirements), or if newly applicable requirements cannot be exclusively shown with a highlighted version of the rule, answer the questions below.

For any proposed changes that cannot be easily and clearly shown by submitting marked-up pages from your existing permit, answer the questions that follow.

14) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) for Source Categories (40 CFR Part 63)

14a) On CH-07, did you identify a newly applicable Part 63 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 14b.

☐ Yes. Attach a copy of each newly applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

14b) On Form CH-07, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 14c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 14c) On Form CH-07, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 15.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

#### 15) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) (40 CFR Part 61)

- 15a) On Form CH-06, did you identify a newly applicable Part 61 NESHAP for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 16.
- ☐ Yes. Attach a highlighted copy of each newly applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

#### 16) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 16a) On Form CH-05, did you identify a newly applicable New Source Performance Standard for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 17.
- ☐ Yes. Attach a copy of each newly applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the subparts. ☐ Attached ☐ Not attached

#### 17) Acid Rain Requirements (40 CFR Part 72)

- 17a) Does the unit or group identified in Question 3a or 3b include new electricity generating equipment capable of generating 25 MW or more of electricity?
- ☐ No. Go on to question 18.
- ☐ Yes. The equipment may be subject to acid rain requirements. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to EPA as appropriate ☐ Not attached

#### 18) New Source Review (40 CFR Part 52.21)

- 18a) On Form CH-04, CH-04a, CH-04b, or CH-04d, did you indicate the intention to propose limits on the item or group identified in Question 3a or 3b (of this form) so that the proposed modification is not subject to New Source Review, or so that entire facility is not a major source under New Source Review, or so that portions of the facility or modification are not subject to certain elements of New Source Review? (If you are proposing limits, but on an item or group other than identified in Question 3a or 3b of this form, then answer **No**; complete a separate CD-01 for the item or group for which you are proposing limits)
- ☐ No. Go on to Question 18b.
- ☐ Yes. Below, list the limit(s) you are proposing, including the proposed compliance demonstration. Then go on to Question 19.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 18b) Is the unit or group identified in Question 3a or 3b (of this form) subject to New Source Review? This would be determined on Form CH-04b or CH-04d.
- ☐ No. Go on to Question 19.
- ☐ Yes. Go on to Question 18c.
- 18c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Technology (BACT) requirements?
- ☐ No. Go on to Question 19.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

## 19) Minnesota Standards of Performance (Minn. R. ch. 7011)

19a) On Form CH-13, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 3a of Form CH-13), any other industry specific Minnesota standard of performance (Table 1 of Form CH-13), or to Minn. R 7011.0715 (item 5 of Form CH-13)?

- ☐ No. Go on to Question 20.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

## 20) National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)

20a) Will the item or group identified in Question 3a or 3b be subject to a limit required in order to meet NAAQS or MAAQS? (This would be identified through modeling.)

- ☐ No. Go on to Question 21.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 21) Environmental Assessment Worksheet (EAW) and Air Emission Risk Analysis (AERA)

21a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes. ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

21b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

- ☐ No.
- ☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 22) Is there pollution control equipment associated with the item or group identified?

- ☐ No      ☐ Yes – Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Instructions for Form CD-01

This form is intended to be used for applications for new individual permits for new facilities, for applications for new individual permits for existing facilities, and for applications for amendments to existing individual permits. It is not intended to be used for applications for reissuance of an existing permit.

Use Form CD-05 to describe operating parameters of control equipment.

### Organization

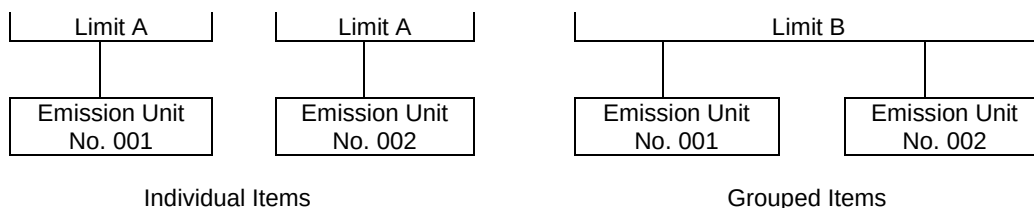
Form CD-01 requires you to organize your compliance plan based on how different portions of your facility are affected by the applicable requirements you identified in the Form GI-09 series. Form CD-01 requires that all applicable requirements listed on the form apply to all portions of the facility listed on the form. Therefore, you will find that you probably will need to use more than one form for your facility. Use as many copies of the forms as you need until you have covered all state and federal rules and regulations that apply to your facility.

Once you determine which portions of your facility have applicable requirements in common, you can then proceed to fill out your CD-01 forms as follows:

- 1) AQ Facility ID No. -- Fill in your Air Quality Facility ID Number as indicated on Form GI-01, item 1a.
- 2) Facility Name -- Enter your facility name as indicated on Form GI-01, item 2.
- 3) Use item 3a when you are filling out the form for an individual item or several individual items, all of which are individually subject to the same requirements. Use item 3b when you are using the form for a group of items that when combined are subject to a common requirement. See examples below:

**3a)** An example of individual items you would list on the same CD-01 form would be two boilers that were each individually subject to the same applicable requirement. Both boilers could have identical limits, but because the limits would apply individually to each unit, they would be considered individual items (see drawing below).

**3b)** Items should be grouped when they share a common limit, as opposed to several individual items that each has its own limit (see drawing below). An example of grouped items would be two boilers limited to a total quantity of fuel that can be burned. An example of items that are not a group would be two stacks that each can not exceed three pounds per hour of particulate emissions. Even though the limit is exactly the same for each stack, this is not a group. Beginning with the number 001, assign a Group ID number to the first group and provide a brief description. Group ID numbers should be assigned sequentially for your entire facility, even though they will appear on more than one CD-01 form. For example, if you have five groups at your facility, you would assign them Group ID numbers 001-005.



### Section A or Section B

Use Section A when you are applying for a new individual operating permit, whether that's for construction of a new facility, a permit for an existing facility that's never needed a permit before, or a permit for a facility that holds a general permit, capped permit, or registration permit and now needs an individual permit.

When you are completing Section A, you will be referencing the GI-09 series of forms, where you identified, at a general level, the state and federal rules applicable to the facility. When you are completing Section B, you will be referencing the CH-xx series of forms, where you identified the same kind of information, but relative to changes to the existing facility.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**
**A-15** 01/18/11

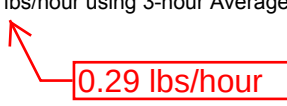
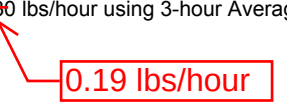
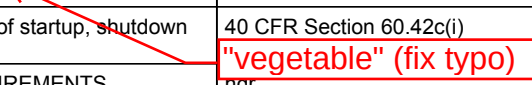
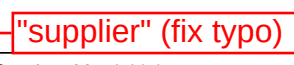
Facility Name: Sanimax USA Inc

Permit Number: 03700070 - 006

**Subject Item:** EU 006 Boiler No. 2

**Associated Items:** GP 001 Combustion Equipment ~~Subject to Facility Wide SO2 Limit~~

SV 006 Boiler No. 2

| What to do                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Why to do it                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMISSION LIMITS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | hdr                                                                                                                                                                                                                                                                                       |
| PM < 10 micron: less than or equal to <del>0.13</del> lbs/hour using 3-hour Average<br>                                                                                                                                                                                                                                                                                                                                                                                                             | Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080 |
| PM < 2.5 micron: less than or equal to <del>0.030</del> lbs/hour using 3-hour Average<br>                                                                                                                                                                                                                                                                                                                                                                                                           | Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080 |
| Total Particulate Matter: less than or equal to 0.40 lbs/million Btu heat input using 3-hour Rolling Average (maximum uncontrolled emissions from this unit are 0.014 lbs/million Btu heat input).                                                                                                                                                                                                                                                                                                                                                                                   | Minn. R. 7011.0515, subp. 1                                                                                                                                                                                                                                                               |
| Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input using 3-hour Rolling Average when burning distillate fuel oil.                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Minn. R. 7011.0515, subp. 1                                                                                                                                                                                                                                                               |
| Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Minn. R. 7011.0515, subp. 2                                                                                                                                                                                                                                                               |
| OTHER LIMITS AND REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | hdr                                                                                                                                                                                                                                                                                       |
| Sulfur Content of Fuel: less than or equal to 0.50 percent by weight as certified by fuel supplier.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 40 CFR Section 60.42c(d); 40 CFR Section 60.42c(d) and Minn. R. 7011.0515, subp. 1                                                                                                                                                                                                        |
| Fuel usage: limited to natural gas, distillate oil, animal fat/vegetable oil, propane, biodiesel, and glycerin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Minn. R. 7007.0800, subp. 4 and 5                                                                                                                                                                                                                                                         |
| The SO2 emission limit applies at all times, including periods of startup, shutdown and malfunctions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 40 CFR Section 60.42c(i)<br><br><b>"vegetable" (fix typo)</b>                                                                                                                                         |
| MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | hdr                                                                                                                                                                                                                                                                                       |
| Sulfur Content of Fuel: Obtain certification from fuel supplier to demonstrate compliance with SO2 limit. Certification from fuel supplier shall include name of the fuel supplier and a statement from the fuel supplier that the fuel oil complies with the specifications under the definition of distillate fuel oil in 40 CFR Section 60.41(c) and the sulfur content of the fuel oil following each fuel delivery.                                                                                                                                                             | 40 CFR Section 60.44c(h)                                                                                                                                                                                                                                                                  |
| Recordkeeping: By the last day of each calendar month, the Permittee shall record the amount of fuel combusted in EU 006 boiler during the previous calendar month. These records shall consist of purchase records, receipts, or fuel meter readings.                                                                                                                                                                                                                                                                                                                               | 40 CFR Section 60.48c(g)                                                                                                                                                                                                                                                                  |
| Recordkeeping: The Permittee shall maintain all records for a minimum of two years.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 40 CFR Section 60.48c(i)                                                                                                                                                                                                                                                                  |
| Reporting: The Permittee shall submit excess emissions reports quarterly if there are excess emissions by the 30th day of the third month following completion of the initial performance test, or semiannually if no excess emissions by the 30th day of the sixth month following completion of the initial performance test. Each subsequent quarterly or semiannual report shall be postmarked by the 30th day following the end of the reporting period.                                                                                                                        | 40 CFR Sections 60.48c(c)                                                                                                                                                                                                                                                                 |
| Reporting: The Permittee shall submit reports on fuel oil sulfur limits. Reports shall be postmarked by the 30th day following the end of each reporting period. Reports shall include records of fuel supplier certification, and certified statement that the records represent all fuel combusted. The fuel supplier certification must include the name of the fuel supplier, a statement from the fuel supplier that the fuel oil complies with the specifications under the definition of distillate fuel oil in 40 CFR Section 60.41c and the sulfur content of the fuel oil. | 40 CFR Sections 60.48c(d), 60.48c(e)(11) and 60.48c(f)<br><br><b>"supplier" (fix typo)</b>                                                                                                           |
| Notification: The Permittee shall provide notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, due no later than 60 days or as soon as practical before the change is commenced.                                                                                                                                                                                                                                                                                        | 40 CFR Section 60.7(a)(4)                                                                                                                                                                                                                                                                 |
| See GP 001 for additional Monitoring and Recordkeeping requirements for EU 006.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | hdr                                                                                                                                                                                                                                                                                       |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CD-01**

Compliance Plan  
Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 7**

**Facility Information**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

**Submit a separate form for each Emission Unit/Tank/Fugitive Source or Group of Sources as necessary.**

3a) Emission Unit /Tank/Fugitive Source Identification Number(s): \_\_\_\_\_

Associated Control Equipment Number(s): CE001

Associated Monitoring System(s) (CEMS or COMS): \_\_\_\_\_

Associated Stack/Vent Number(s): \_\_\_\_\_

**OR**

3b) Group Description: \_\_\_\_\_

Emission Units/Tanks/Fugitive Sources Included in Group: \_\_\_\_\_

Control Equipment Included in Group: \_\_\_\_\_

Monitoring Systems (CEMS or COMS) Included in Group: \_\_\_\_\_

Stack/Vents Included in Group: \_\_\_\_\_

*CEMS = continuous emission monitoring system; COMS = continuous opacity monitoring system*

Use **Section A** of this form when you are applying for the first time for a new individual operating permit (federal or state). This includes:

- permits for construction of new facilities
- permits for existing facilities that are switching to an individual permit from a Registration Permit, Capped Permit, or General Permit
- permits for existing facilities subject to permitting for the first time

Use **Section B** of this form when you are applying for an amendment to an existing individual operating permit (federal or state).

In addition to this form, use **Form CD-05** to identify operating parameters of control equipment when you are applying for the first time for an individual operating permit, or when applying for an amendment to an existing individual operating permit.

**Section A - Compliance Plan for a New Individual Operating Permit**

**4) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories (40 CFR Part 63)**

4a) On Form GI-09A, did you identify a Part 63 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 4b.

☐ Yes. Attach a copy of each applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart.

☐ Attached ☐ Not attached

4b) On Form GI-09A, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 4c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 4c) On Form GI-09A, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 5.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

## 5) National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61)

- 5a) On Form GI-09B, did you identify a Part 61 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 6.
- ☐ Yes. Attach a highlighted copy of each applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 6) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 6a) If required to complete Form GI-09D, did you identify a New Source Performance Standard that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 7.
- ☐ Yes. Attach a copy of each applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 7) Acid Rain Requirements (40 CFR Part 72)

- 7a) On Form GI-09 or GI-09E, did you identify that the acid rain requirements are applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 8.
- ☐ Yes. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to U.S. Environmental Protection Agency (EPA) as appropriate
- ☐ Not attached

## 8) New Source Review (40 CFR Part 52.21)

- 8a) On Form GI-09C, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source under New Source Review, or so that portions of the proposed facility are not subject to certain elements of New Source Review?
- ☐ No. Go on to Question 8b.
- ☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 8b) Will the stationary source be permitted as a major source under New Source Review?
- ☐ No. Go on to Question 9.
- ☐ Yes. Go on to Question 8c.



8c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Control Technology (BACT) requirements?

☐ No. Go on to Question 9.

☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

## 9) Minnesota Standards of Performance (Minn. R. ch. 7011)

9a) On Form GI-09I, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 2a of Form GI-09I), any other industry specific Minnesota standard of performance (Table H of Form GI-09I), or to Minn. R 7011.0715 (item 4 of Form GI-09I)?

☐ No. Go on to Question 10.

☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

## 10) National or Minnesota Ambient Air Quality Standards (NAAQS or MAAQS)

10a) Is the item or group identified in Question 3a or 3b subject to an existing or proposed limit required in order to meet National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)? (This would be identified through modeling.)

☐ No. Go on to Question 11.

☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 11) Environmental Assessment Worksheets (EAW) and Air Emissions Risk Analysis (AERA)

11a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

☐ No.

☐ Yes: ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

11b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

☐ No.

☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

12) Is there pollution control equipment associated with the item or group identified?

☐ No.

☐ Yes. Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Section B - Compliance Plan for an Amendment to an Existing Individual Operating Permit

13) To the extent that your proposed permit amendment consists of edits to existing permit language, you should attach to this form a copy of the relevant page(s) of the existing permit with proposed changes clearly marked.

Check one or more of the following statements, as applicable:

- ☒ All or part of the proposed permit changes for the item or group identified in Question 3a or 3b are shown by edits to the existing permit language, a copy of which is attached to this form. If you show all changes with the edits to the existing permit language, you are done with this form.
- ☐ Some of the proposed permit changes for the item or group identified in Question 3a or 3b cannot be shown by simply marking up existing permit language, so I am answering the questions below.
- ☐ New requirements to existing equipment are inclusively shown by including a highlighted copy of the applicable rule. If the highlighted rule does not include all requirements (e.g. control equipment operating requirements), or if newly applicable requirements cannot be exclusively shown with a highlighted version of the rule, answer the questions below.

For any proposed changes that cannot be easily and clearly shown by submitting marked-up pages from your existing permit, answer the questions that follow.

14) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) for Source Categories (40 CFR Part 63)

14a) On CH-07, did you identify a newly applicable Part 63 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 14b.

☐ Yes. Attach a copy of each newly applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

14b) On Form CH-07, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 14c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 14c) On Form CH-07, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 15.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

#### 15) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) (40 CFR Part 61)

- 15a) On Form CH-06, did you identify a newly applicable Part 61 NESHAP for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 16.
- ☐ Yes. Attach a highlighted copy of each newly applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

#### 16) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 16a) On Form CH-05, did you identify a newly applicable New Source Performance Standard for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 17.
- ☐ Yes. Attach a copy of each newly applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the subparts. ☐ Attached ☐ Not attached

#### 17) Acid Rain Requirements (40 CFR Part 72)

- 17a) Does the unit or group identified in Question 3a or 3b include new electricity generating equipment capable of generating 25 MW or more of electricity?
- ☐ No. Go on to question 18.
- ☐ Yes. The equipment may be subject to acid rain requirements. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to EPA as appropriate ☐ Not attached

#### 18) New Source Review (40 CFR Part 52.21)

- 18a) On Form CH-04, CH-04a, CH-04b, or CH-04d, did you indicate the intention to propose limits on the item or group identified in Question 3a or 3b (of this form) so that the proposed modification is not subject to New Source Review, or so that entire facility is not a major source under New Source Review, or so that portions of the facility or modification are not subject to certain elements of New Source Review? (If you are proposing limits, but on an item or group other than identified in Question 3a or 3b of this form, then answer **No**; complete a separate CD-01 for the item or group for which you are proposing limits)
- ☐ No. Go on to Question 18b.
- ☐ Yes. Below, list the limit(s) you are proposing, including the proposed compliance demonstration. Then go on to Question 19.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 18b) Is the unit or group identified in Question 3a or 3b (of this form) subject to New Source Review? This would be determined on Form CH-04b or CH-04d.
- ☐ No. Go on to Question 19.
- ☐ Yes. Go on to Question 18c.
- 18c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Technology (BACT) requirements?
- ☐ No. Go on to Question 19.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

### 19) Minnesota Standards of Performance (Minn. R. ch. 7011)

19a) On Form CH-13, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 3a of Form CH-13), any other industry specific Minnesota standard of performance (Table 1 of Form CH-13), or to Minn. R 7011.0715 (item 5 of Form CH-13)?

- ☐ No. Go on to Question 20.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

### 20) National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)

20a) Will the item or group identified in Question 3a or 3b be subject to a limit required in order to meet NAAQS or MAAQS? (This would be identified through modeling.)

- ☐ No. Go on to Question 21.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

### 21) Environmental Assessment Worksheet (EAW) and Air Emission Risk Analysis (AERA)

21a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes. ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

21b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

- ☐ No.
- ☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 22) Is there pollution control equipment associated with the item or group identified?

- ☐ No      ☐ Yes – Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Instructions for Form CD-01

This form is intended to be used for applications for new individual permits for new facilities, for applications for new individual permits for existing facilities, and for applications for amendments to existing individual permits. It is not intended to be used for applications for reissuance of an existing permit.

Use Form CD-05 to describe operating parameters of control equipment.

### Organization

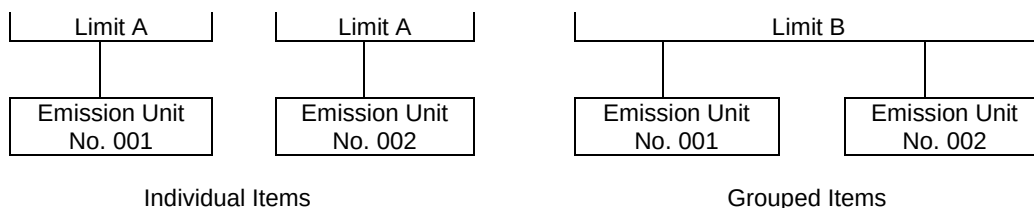
Form CD-01 requires you to organize your compliance plan based on how different portions of your facility are affected by the applicable requirements you identified in the Form GI-09 series. Form CD-01 requires that all applicable requirements listed on the form apply to all portions of the facility listed on the form. Therefore, you will find that you probably will need to use more than one form for your facility. Use as many copies of the forms as you need until you have covered all state and federal rules and regulations that apply to your facility.

Once you determine which portions of your facility have applicable requirements in common, you can then proceed to fill out your CD-01 forms as follows:

- 1) AQ Facility ID No. -- Fill in your Air Quality Facility ID Number as indicated on Form GI-01, item 1a.
- 2) Facility Name -- Enter your facility name as indicated on Form GI-01, item 2.
- 3) Use item 3a when you are filling out the form for an individual item or several individual items, all of which are individually subject to the same requirements. Use item 3b when you are using the form for a group of items that when combined are subject to a common requirement. See examples below:

**3a)** An example of individual items you would list on the same CD-01 form would be two boilers that were each individually subject to the same applicable requirement. Both boilers could have identical limits, but because the limits would apply individually to each unit, they would be considered individual items (see drawing below).

**3b)** Items should be grouped when they share a common limit, as opposed to several individual items that each has its own limit (see drawing below). An example of grouped items would be two boilers limited to a total quantity of fuel that can be burned. An example of items that are not a group would be two stacks that each can not exceed three pounds per hour of particulate emissions. Even though the limit is exactly the same for each stack, this is not a group. Beginning with the number 001, assign a Group ID number to the first group and provide a brief description. Group ID numbers should be assigned sequentially for your entire facility, even though they will appear on more than one CD-01 form. For example, if you have five groups at your facility, you would assign them Group ID numbers 001-005.



### Section A or Section B

Use Section A when you are applying for a new individual operating permit, whether that's for construction of a new facility, a permit for an existing facility that's never needed a permit before, or a permit for a facility that holds a general permit, capped permit, or registration permit and now needs an individual permit.

When you are completing Section A, you will be referencing the GI-09 series of forms, where you identified, at a general level, the state and federal rules applicable to the facility. When you are completing Section B, you will be referencing the CH-xx series of forms, where you identified the same kind of information, but relative to changes to the existing facility.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-23 01/18/11

Facility Name: Sanimax USA Inc

Permit Number: 03700070 - 006

**Subject Item:** CE 001 Blood Process Venturi Scrubber**Associated Items:** EU 002 Ring/Blood Dryer

| What to do                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Why to do it                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPERATIONAL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | hdr                                                                                                                                                                                               |
| The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 90 percent control efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14                              |
| The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron: greater than or equal to 90 percent control efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14                              |
| The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron: less than or equal to 90 percent control efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14                              |
| MONITORING AND RECORDKEEPING REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | "greater than or equal to" (fix typo)                                                                                                                                                             |
| Pressure Drop: greater than or equal to <del>4.0</del> inches of water column and less than or equal to <del>6.0</del> inches of water column across CE 001.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7017.2025, subp. 3 |
| The Permittee shall read and record the pressure drop and liquid flow rate across CE 001, once each day of operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5                               |
| Liquid Flow Rate: greater than or equal to 48 gallons/minute through CE 001.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Minn. 7007.0800, subp. 4(B)                                                                                                                                                                       |
| Recordkeeping of Pressure Drop and Liquid Flow Rate. The Permittee shall record the time and date of each pressure drop and liquid flow rate reading, whether or not any visible emissions were observed, and whether or not the observed pressure drop liquid flow rate were within the ranges specified in this permit.                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5                               |
| Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:<br><br>- visible emissions are observed;<br>- the recorded pressure drop and/or liquid flow rate are outside the required operating ranges; or<br>- CE 001 or any of its components are found during the inspections to need repair.<br><br>Corrective actions shall return the pressure drop and/or liquid flow rate to within the permitted ranges and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the CE 001. The Permittee shall keep a record of the type and date of any corrective action taken for CE 001. | Minn. R. 7007.0800, subps. 4, 5 and 14                                                                                                                                                            |
| Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Minn. R. 7007.0800, subps. 4, 5 and 14                                                                                                                                                            |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CD-01**

Compliance Plan  
Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 7**

**Facility Information**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

**Submit a separate form for each Emission Unit/Tank/Fugitive Source or Group of Sources as necessary.**

3a) Emission Unit /Tank/Fugitive Source Identification Number(s): \_\_\_\_\_

Associated Control Equipment Number(s): CE003

Associated Monitoring System(s) (CEMS or COMS): \_\_\_\_\_

Associated Stack/Vent Number(s): \_\_\_\_\_

**OR**

3b) Group Description: \_\_\_\_\_

Emission Units/Tanks/Fugitive Sources Included in Group: \_\_\_\_\_

Control Equipment Included in Group: \_\_\_\_\_

Monitoring Systems (CEMS or COMS) Included in Group: \_\_\_\_\_

Stack/Vents Included in Group: \_\_\_\_\_

*CEMS = continuous emission monitoring system; COMS = continuous opacity monitoring system*

Use **Section A** of this form when you are applying for the first time for a new individual operating permit (federal or state). This includes:

- permits for construction of new facilities
- permits for existing facilities that are switching to an individual permit from a Registration Permit, Capped Permit, or General Permit
- permits for existing facilities subject to permitting for the first time

Use **Section B** of this form when you are applying for an amendment to an existing individual operating permit (federal or state).

In addition to this form, use **Form CD-05** to identify operating parameters of control equipment when you are applying for the first time for an individual operating permit, or when applying for an amendment to an existing individual operating permit.

**Section A - Compliance Plan for a New Individual Operating Permit**

**4) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories (40 CFR Part 63)**

4a) On Form GI-09A, did you identify a Part 63 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 4b.

☐ Yes. Attach a copy of each applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart.

☐ Attached ☐ Not attached

4b) On Form GI-09A, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 4c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 4c) On Form GI-09A, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 5.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

## 5) National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61)

- 5a) On Form GI-09B, did you identify a Part 61 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 6.
- ☐ Yes. Attach a highlighted copy of each applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 6) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 6a) If required to complete Form GI-09D, did you identify a New Source Performance Standard that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 7.
- ☐ Yes. Attach a copy of each applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 7) Acid Rain Requirements (40 CFR Part 72)

- 7a) On Form GI-09 or GI-09E, did you identify that the acid rain requirements are applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 8.
- ☐ Yes. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to U.S. Environmental Protection Agency (EPA) as appropriate
- ☐ Not attached

## 8) New Source Review (40 CFR Part 52.21)

- 8a) On Form GI-09C, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source under New Source Review, or so that portions of the proposed facility are not subject to certain elements of New Source Review?
- ☐ No. Go on to Question 8b.
- ☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 8b) Will the stationary source be permitted as a major source under New Source Review?
- ☐ No. Go on to Question 9.
- ☐ Yes. Go on to Question 8c.



8c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Control Technology (BACT) requirements?

☐ No. Go on to Question 9.

☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
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|                     |                                   |

## 9) Minnesota Standards of Performance (Minn. R. ch. 7011)

9a) On Form GI-09I, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 2a of Form GI-09I), any other industry specific Minnesota standard of performance (Table H of Form GI-09I), or to Minn. R 7011.0715 (item 4 of Form GI-09I)?

☐ No. Go on to Question 10.

☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
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## 10) National or Minnesota Ambient Air Quality Standards (NAAQS or MAAQS)

10a) Is the item or group identified in Question 3a or 3b subject to an existing or proposed limit required in order to meet National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)? (This would be identified through modeling.)

☐ No. Go on to Question 11.

☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
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|                |                                   |

## 11) Environmental Assessment Worksheets (EAW) and Air Emissions Risk Analysis (AERA)

11a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

☐ No.

☐ Yes: ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

11b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

☐ No.

☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
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12) Is there pollution control equipment associated with the item or group identified?

☐ No.

☐ Yes. Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Section B - Compliance Plan for an Amendment to an Existing Individual Operating Permit

13) To the extent that your proposed permit amendment consists of edits to existing permit language, you should attach to this form a copy of the relevant page(s) of the existing permit with proposed changes clearly marked.

Check one or more of the following statements, as applicable:

- ☒ All or part of the proposed permit changes for the item or group identified in Question 3a or 3b are shown by edits to the existing permit language, a copy of which is attached to this form. If you show all changes with the edits to the existing permit language, you are done with this form.
- ☐ Some of the proposed permit changes for the item or group identified in Question 3a or 3b cannot be shown by simply marking up existing permit language, so I am answering the questions below.
- ☐ New requirements to existing equipment are inclusively shown by including a highlighted copy of the applicable rule. If the highlighted rule does not include all requirements (e.g. control equipment operating requirements), or if newly applicable requirements cannot be exclusively shown with a highlighted version of the rule, answer the questions below.

For any proposed changes that cannot be easily and clearly shown by submitting marked-up pages from your existing permit, answer the questions that follow.

14) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) for Source Categories (40 CFR Part 63)

14a) On CH-07, did you identify a newly applicable Part 63 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 14b.

☐ Yes. Attach a copy of each newly applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

14b) On Form CH-07, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 14c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
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|                |                                   |

- 14c) On Form CH-07, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 15.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

#### 15) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) (40 CFR Part 61)

- 15a) On Form CH-06, did you identify a newly applicable Part 61 NESHAP for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 16.
- ☐ Yes. Attach a highlighted copy of each newly applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

#### 16) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 16a) On Form CH-05, did you identify a newly applicable New Source Performance Standard for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 17.
- ☐ Yes. Attach a copy of each newly applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the subparts. ☐ Attached ☐ Not attached

#### 17) Acid Rain Requirements (40 CFR Part 72)

- 17a) Does the unit or group identified in Question 3a or 3b include new electricity generating equipment capable of generating 25 MW or more of electricity?
- ☐ No. Go on to question 18.
- ☐ Yes. The equipment may be subject to acid rain requirements. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to EPA as appropriate ☐ Not attached

#### 18) New Source Review (40 CFR Part 52.21)

- 18a) On Form CH-04, CH-04a, CH-04b, or CH-04d, did you indicate the intention to propose limits on the item or group identified in Question 3a or 3b (of this form) so that the proposed modification is not subject to New Source Review, or so that entire facility is not a major source under New Source Review, or so that portions of the facility or modification are not subject to certain elements of New Source Review? (If you are proposing limits, but on an item or group other than identified in Question 3a or 3b of this form, then answer **No**; complete a separate CD-01 for the item or group for which you are proposing limits)
- ☐ No. Go on to Question 18b.
- ☐ Yes. Below, list the limit(s) you are proposing, including the proposed compliance demonstration. Then go on to Question 19.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
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|                |                                   |

- 18b) Is the unit or group identified in Question 3a or 3b (of this form) subject to New Source Review? This would be determined on Form CH-04b or CH-04d.
- ☐ No. Go on to Question 19.
- ☐ Yes. Go on to Question 18c.
- 18c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Technology (BACT) requirements?
- ☐ No. Go on to Question 19.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
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|                     |                                   |

### 19) Minnesota Standards of Performance (Minn. R. ch. 7011)

19a) On Form CH-13, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 3a of Form CH-13), any other industry specific Minnesota standard of performance (Table 1 of Form CH-13), or to Minn. R 7011.0715 (item 5 of Form CH-13)?

- ☐ No. Go on to Question 20.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

### 20) National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)

20a) Will the item or group identified in Question 3a or 3b be subject to a limit required in order to meet NAAQS or MAAQS? (This would be identified through modeling.)

- ☐ No. Go on to Question 21.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

### 21) Environmental Assessment Worksheet (EAW) and Air Emission Risk Analysis (AERA)

21a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes. ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

21b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

- ☐ No.
- ☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 22) Is there pollution control equipment associated with the item or group identified?

- ☐ No      ☐ Yes – Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Instructions for Form CD-01

This form is intended to be used for applications for new individual permits for new facilities, for applications for new individual permits for existing facilities, and for applications for amendments to existing individual permits. It is not intended to be used for applications for reissuance of an existing permit.

Use Form CD-05 to describe operating parameters of control equipment.

### Organization

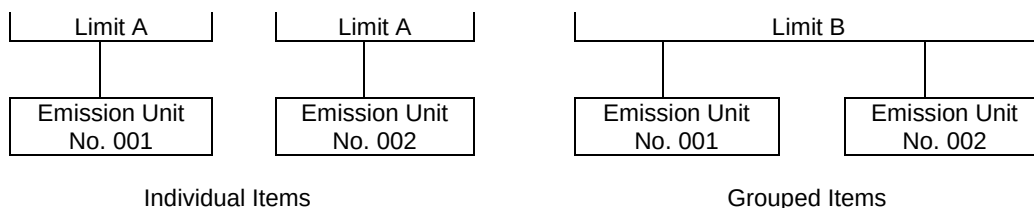
Form CD-01 requires you to organize your compliance plan based on how different portions of your facility are affected by the applicable requirements you identified in the Form GI-09 series. Form CD-01 requires that all applicable requirements listed on the form apply to all portions of the facility listed on the form. Therefore, you will find that you probably will need to use more than one form for your facility. Use as many copies of the forms as you need until you have covered all state and federal rules and regulations that apply to your facility.

Once you determine which portions of your facility have applicable requirements in common, you can then proceed to fill out your CD-01 forms as follows:

- 1) AQ Facility ID No. -- Fill in your Air Quality Facility ID Number as indicated on Form GI-01, item 1a.
- 2) Facility Name -- Enter your facility name as indicated on Form GI-01, item 2.
- 3) Use item 3a when you are filling out the form for an individual item or several individual items, all of which are individually subject to the same requirements. Use item 3b when you are using the form for a group of items that when combined are subject to a common requirement. See examples below:

**3a)** An example of individual items you would list on the same CD-01 form would be two boilers that were each individually subject to the same applicable requirement. Both boilers could have identical limits, but because the limits would apply individually to each unit, they would be considered individual items (see drawing below).

**3b)** Items should be grouped when they share a common limit, as opposed to several individual items that each has its own limit (see drawing below). An example of grouped items would be two boilers limited to a total quantity of fuel that can be burned. An example of items that are not a group would be two stacks that each can not exceed three pounds per hour of particulate emissions. Even though the limit is exactly the same for each stack, this is not a group. Beginning with the number 001, assign a Group ID number to the first group and provide a brief description. Group ID numbers should be assigned sequentially for your entire facility, even though they will appear on more than one CD-01 form. For example, if you have five groups at your facility, you would assign them Group ID numbers 001-005.



### Section A or Section B

Use Section A when you are applying for a new individual operating permit, whether that's for construction of a new facility, a permit for an existing facility that's never needed a permit before, or a permit for a facility that holds a general permit, capped permit, or registration permit and now needs an individual permit.

When you are completing Section A, you will be referencing the GI-09 series of forms, where you identified, at a general level, the state and federal rules applicable to the facility. When you are completing Section B, you will be referencing the CH-xx series of forms, where you identified the same kind of information, but relative to changes to the existing facility.

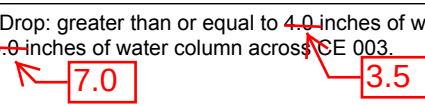
**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-24**

01/18/11

Facility Name: Sanimax USA Inc

Permit Number: 03700070 - 006

**Subject Item:** CE 003 PRF Venturi Scrubber**Associated Items:** EU 003 Protein Recovery Facility (PRF)

| What to do                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Why to do it                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OPERATIONAL REQUIREMENTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | hdr                                                                                                                                                                                               |
| The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 90 percent control efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14                              |
| The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron: greater than or equal to 90 percent control efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14                              |
| The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron: greater than or equal to 90 percent control efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14                              |
| <b>MONITORING AND RECORDKEEPING REQUIREMENTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | hdr                                                                                                                                                                                               |
| Pressure Drop: greater than or equal to <del>4.0</del> inches of water column and less than or equal to <del>6.0</del> inches of water column across CE 003.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7017.2025, subp. 3 |
| The Permittee shall read and record the pressure drop and liquid flow rate across CE 003, once each day of operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5                               |
| Liquid Flow Rate: greater than or equal to 16 gallons/minute through CE 003.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Minn. 7007.0800, subp. 4(B)                                                                                                                                                                       |
| Recordkeeping of Pressure Drop and Liquid Flow Rate. The Permittee shall record the time and date of each pressure drop and liquid flow rate reading, whether or not any visible emissions were observed, and whether or not the observed pressure drop liquid flow rate were within the ranges specified in this permit.                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5                               |
| Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:<br><br>- visible emissions are observed;<br>- the recorded pressure drop and/or liquid flow rate are outside the required operating ranges; or<br>- CE 003 or any of its components are found during the inspections to need repair.<br><br>Corrective actions shall return the pressure drop and/or liquid flow rate to within the permitted ranges and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the CE 003. The Permittee shall keep a record of the type and date of any corrective action taken for CE 003. | Minn. R. 7007.0800, subps. 4, 5 and 14                                                                                                                                                            |
| Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Minn. R. 7007.0800, subps. 4, 5 and 14                                                                                                                                                            |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CD-01**

Compliance Plan  
Air Quality Permit Program

Doc Type: Permit Application

**Instructions on Page 7**

**Facility Information**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

**Submit a separate form for each Emission Unit/Tank/Fugitive Source or Group of Sources as necessary.**

3a) Emission Unit /Tank/Fugitive Source Identification Number(s): \_\_\_\_\_

Associated Control Equipment Number(s): CE012

Associated Monitoring System(s) (CEMS or COMS): \_\_\_\_\_

Associated Stack/Vent Number(s): \_\_\_\_\_

**OR**

3b) Group Description: \_\_\_\_\_

Emission Units/Tanks/Fugitive Sources Included in Group: \_\_\_\_\_

Control Equipment Included in Group: \_\_\_\_\_

Monitoring Systems (CEMS or COMS) Included in Group: \_\_\_\_\_

Stack/Vents Included in Group: \_\_\_\_\_

*CEMS = continuous emission monitoring system; COMS = continuous opacity monitoring system*

Use **Section A** of this form when you are applying for the first time for a new individual operating permit (federal or state). This includes:

- permits for construction of new facilities
- permits for existing facilities that are switching to an individual permit from a Registration Permit, Capped Permit, or General Permit
- permits for existing facilities subject to permitting for the first time

Use **Section B** of this form when you are applying for an amendment to an existing individual operating permit (federal or state).

In addition to this form, use **Form CD-05** to identify operating parameters of control equipment when you are applying for the first time for an individual operating permit, or when applying for an amendment to an existing individual operating permit.

**Section A - Compliance Plan for a New Individual Operating Permit**

**4) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories (40 CFR Part 63)**

4a) On Form GI-09A, did you identify a Part 63 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 4b.

☐ Yes. Attach a copy of each applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart.

☐ Attached ☐ Not attached

4b) On Form GI-09A, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 4c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 4c) On Form GI-09A, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 5.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

## 5) National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61)

- 5a) On Form GI-09B, did you identify a Part 61 NESHAP that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 6.
- ☐ Yes. Attach a highlighted copy of each applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 6) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 6a) If required to complete Form GI-09D, did you identify a New Source Performance Standard that is or will be applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 7.
- ☐ Yes. Attach a copy of each applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

## 7) Acid Rain Requirements (40 CFR Part 72)

- 7a) On Form GI-09 or GI-09E, did you identify that the acid rain requirements are applicable to the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 8.
- ☐ Yes. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to U.S. Environmental Protection Agency (EPA) as appropriate
- ☐ Not attached

## 8) New Source Review (40 CFR Part 52.21)

- 8a) On Form GI-09C, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source under New Source Review, or so that portions of the proposed facility are not subject to certain elements of New Source Review?
- ☐ No. Go on to Question 8b.
- ☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 8b) Will the stationary source be permitted as a major source under New Source Review?
- ☐ No. Go on to Question 9.
- ☐ Yes. Go on to Question 8c.



8c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Control Technology (BACT) requirements?

- ☐ No. Go on to Question 9.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

**9) Minnesota Standards of Performance (Minn. R. ch. 7011)**

9a) On Form GI-09I, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 2a of Form GI-09I), any other industry specific Minnesota standard of performance (Table H of Form GI-09I), or to Minn. R 7011.0715 (item 4 of Form GI-09I)?

- ☐ No. Go on to Question 10.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

**10) National or Minnesota Ambient Air Quality Standards (NAAQS or MAAQS)**

10a) Is the item or group identified in Question 3a or 3b subject to an existing or proposed limit required in order to meet National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)? (This would be identified through modeling.)

- ☐ No. Go on to Question 11.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

**11) Environmental Assessment Worksheets (EAW) and Air Emissions Risk Analysis (AERA)**

11a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes: ☐ To avoid an AERA and/or ☐ To avoid an EAW  
List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

11b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

☐ No.

☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

12) Is there pollution control equipment associated with the item or group identified?

☐ No.

☐ Yes. Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Section B - Compliance Plan for an Amendment to an Existing Individual Operating Permit

13) To the extent that your proposed permit amendment consists of edits to existing permit language, you should attach to this form a copy of the relevant page(s) of the existing permit with proposed changes clearly marked.

Check one or more of the following statements, as applicable:

- ☒ All or part of the proposed permit changes for the item or group identified in Question 3a or 3b are shown by edits to the existing permit language, a copy of which is attached to this form. If you show all changes with the edits to the existing permit language, you are done with this form.
- ☐ Some of the proposed permit changes for the item or group identified in Question 3a or 3b cannot be shown by simply marking up existing permit language, so I am answering the questions below.
- ☐ New requirements to existing equipment are inclusively shown by including a highlighted copy of the applicable rule. If the highlighted rule does not include all requirements (e.g. control equipment operating requirements), or if newly applicable requirements cannot be exclusively shown with a highlighted version of the rule, answer the questions below.

For any proposed changes that cannot be easily and clearly shown by submitting marked-up pages from your existing permit, answer the questions that follow.

14) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) for Source Categories (40 CFR Part 63)

14a) On CH-07, did you identify a newly applicable Part 63 NESHAP for the item or group identified in Question 3a or 3b (of this form)?

☐ No. Go on to Question 14b.

☐ Yes. Attach a copy of each newly applicable Part 63 NESHAP Subpart and Subpart A. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

14b) On Form CH-07, did you propose limits on the item or group identified in Question 3a or 3b (of this form) so that the entire facility is not a major source of HAPs?

☐ No. Go on to Question 14c.

☐ Yes. Below, list the limit(s) you proposed, providing the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 14c) On Form CH-07, did you identify that a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to Question 15.
- ☐ Yes. Attach your case-by-case proposal, including proposed compliance demonstration.
- ☐ Attached ☐ Not attached

#### 15) National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) (40 CFR Part 61)

- 15a) On Form CH-06, did you identify a newly applicable Part 61 NESHAP for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 16.
- ☐ Yes. Attach a highlighted copy of each newly applicable Part 61 NESHAP. Highlight all applicable requirements of the entire subpart. ☐ Attached ☐ Not attached

#### 16) New Source Performance Standards (NSPS) (40 CFR Part 60)

- 16a) On Form CH-05, did you identify a newly applicable New Source Performance Standard for the item or group identified in Question 3a or 3b (of this form)?
- ☐ No. Go on to question 17.
- ☐ Yes. Attach a copy of each newly applicable NSPS Subpart and Subpart A. Highlight all applicable requirements of the subparts. ☐ Attached ☐ Not attached

#### 17) Acid Rain Requirements (40 CFR Part 72)

- 17a) Does the unit or group identified in Question 3a or 3b include new electricity generating equipment capable of generating 25 MW or more of electricity?
- ☐ No. Go on to question 18.
- ☐ Yes. The equipment may be subject to acid rain requirements. Refer to <http://www.epa.gov/airmarkets/business/forms.html#arp> for the applicable Acid Rain Program forms and instructions.
- ☐ Applicable Forms attached and sent to EPA as appropriate ☐ Not attached

#### 18) New Source Review (40 CFR Part 52.21)

- 18a) On Form CH-04, CH-04a, CH-04b, or CH-04d, did you indicate the intention to propose limits on the item or group identified in Question 3a or 3b (of this form) so that the proposed modification is not subject to New Source Review, or so that entire facility is not a major source under New Source Review, or so that portions of the facility or modification are not subject to certain elements of New Source Review? (If you are proposing limits, but on an item or group other than identified in Question 3a or 3b of this form, then answer **No**; complete a separate CD-01 for the item or group for which you are proposing limits)
- ☐ No. Go on to Question 18b.
- ☐ Yes. Below, list the limit(s) you are proposing, including the proposed compliance demonstration. Then go on to Question 19.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

- 18b) Is the unit or group identified in Question 3a or 3b (of this form) subject to New Source Review? This would be determined on Form CH-04b or CH-04d.
- ☐ No. Go on to Question 19.
- ☐ Yes. Go on to Question 18c.
- 18c) Is the item or group identified in Question 3a or 3b (of this form) subject to Best Available Technology (BACT) requirements?
- ☐ No. Go on to Question 19.
- ☐ Yes. Below, list the BACT requirements proposed for the item or group identified in Question 3a or 3b of this form, providing the proposed compliance demonstration.

| Proposed BACT limit | Proposed compliance demonstration |
|---------------------|-----------------------------------|
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |
|                     |                                   |

### 19) Minnesota Standards of Performance (Minn. R. ch. 7011)

19a) On Form CH-13, did you identify the item or group listed in Question 3a or 3b (of this form) as being subject to Minn. R. 7011.0515 (item 3a of Form CH-13), any other industry specific Minnesota standard of performance (Table 1 of Form CH-13), or to Minn. R 7011.0715 (item 5 of Form CH-13)?

- ☐ No. Go on to Question 20.
- ☐ Yes. List the rule(s) and specific limit(s) below, along with the proposed compliance demonstration.

| Applicable rule | Rule limit | Proposed compliance demonstration |
|-----------------|------------|-----------------------------------|
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |
|                 |            |                                   |

### 20) National Ambient Air Quality Standard (NAAQS) or Minnesota Ambient Air Quality Standard (MAAQS)

20a) Will the item or group identified in Question 3a or 3b be subject to a limit required in order to meet NAAQS or MAAQS? (This would be identified through modeling.)

- ☐ No. Go on to Question 21.
- ☐ Yes. List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

### 21) Environmental Assessment Worksheet (EAW) and Air Emission Risk Analysis (AERA)

21a) Did you assume limits on the item or group listed in Question 3a or 3b in order to avoid the need to do an EAW or AERA?

- ☐ No.
- ☐ Yes. ☐ To avoid an AERA and/or ☐ To avoid an EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

21b) Does the item or group identified in Question 3a or 3b require limits based on the results of an EAW or AERA that was performed?

- ☐ No.
- ☐ Yes. ☐ AERA and/or ☐ EAW

List the limit(s) below, along with the proposed compliance demonstration.

| Proposed limit | Proposed compliance demonstration |
|----------------|-----------------------------------|
|                |                                   |
|                |                                   |
|                |                                   |
|                |                                   |

## 22) Is there pollution control equipment associated with the item or group identified?

- ☐ No      ☐ Yes – Complete Form CD-05 for each associated control device or submit marked-up pages of the permit if only making changes to operating parameter values of existing control equipment.

## Instructions for Form CD-01

This form is intended to be used for applications for new individual permits for new facilities, for applications for new individual permits for existing facilities, and for applications for amendments to existing individual permits. It is not intended to be used for applications for reissuance of an existing permit.

Use Form CD-05 to describe operating parameters of control equipment.

### Organization

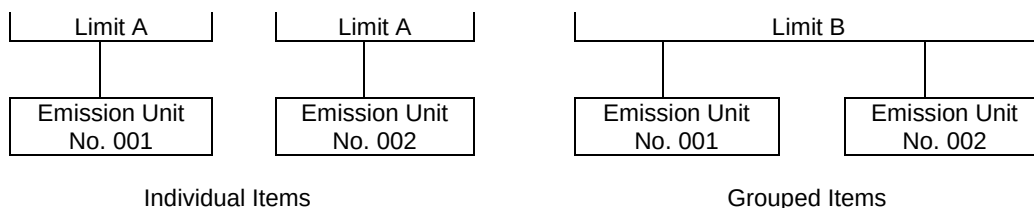
Form CD-01 requires you to organize your compliance plan based on how different portions of your facility are affected by the applicable requirements you identified in the Form GI-09 series. Form CD-01 requires that all applicable requirements listed on the form apply to all portions of the facility listed on the form. Therefore, you will find that you probably will need to use more than one form for your facility. Use as many copies of the forms as you need until you have covered all state and federal rules and regulations that apply to your facility.

Once you determine which portions of your facility have applicable requirements in common, you can then proceed to fill out your CD-01 forms as follows:

- 1) AQ Facility ID No. -- Fill in your Air Quality Facility ID Number as indicated on Form GI-01, item 1a.
- 2) Facility Name -- Enter your facility name as indicated on Form GI-01, item 2.
- 3) Use item 3a when you are filling out the form for an individual item or several individual items, all of which are individually subject to the same requirements. Use item 3b when you are using the form for a group of items that when combined are subject to a common requirement. See examples below:

**3a)** An example of individual items you would list on the same CD-01 form would be two boilers that were each individually subject to the same applicable requirement. Both boilers could have identical limits, but because the limits would apply individually to each unit, they would be considered individual items (see drawing below).

**3b)** Items should be grouped when they share a common limit, as opposed to several individual items that each has its own limit (see drawing below). An example of grouped items would be two boilers limited to a total quantity of fuel that can be burned. An example of items that are not a group would be two stacks that each can not exceed three pounds per hour of particulate emissions. Even though the limit is exactly the same for each stack, this is not a group. Beginning with the number 001, assign a Group ID number to the first group and provide a brief description. Group ID numbers should be assigned sequentially for your entire facility, even though they will appear on more than one CD-01 form. For example, if you have five groups at your facility, you would assign them Group ID numbers 001-005.



### Section A or Section B

Use Section A when you are applying for a new individual operating permit, whether that's for construction of a new facility, a permit for an existing facility that's never needed a permit before, or a permit for a facility that holds a general permit, capped permit, or registration permit and now needs an individual permit.

When you are completing Section A, you will be referencing the GI-09 series of forms, where you identified, at a general level, the state and federal rules applicable to the facility. When you are completing Section B, you will be referencing the CH-xx series of forms, where you identified the same kind of information, but relative to changes to the existing facility.

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-26**

01/18/11

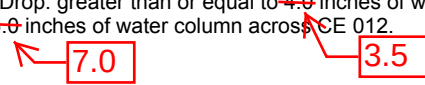
Facility Name: Sanimax USA Inc

Permit Number: 03700070 - 006

**Subject Item:** CE 012 Cookers Venturi Scrubber**Associated Items:** EU 012 Continuous Cooker No. 1

EU 013 Continuous Cooker No. 2

GP 003 Continuous Cookers and Control Equipment

| What to do                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Why to do it                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPERATIONAL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | hdr                                                                                                                                                                                                                                                             |
| The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 90 percent control efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14                                                                                            |
| The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron: greater than or equal to 90 percent control efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14                                                                                            |
| The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron: greater than or equal to 90 percent control efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14                                                                                            |
| MONITORING AND RECORDKEEPING REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | hdr                                                                                                                                                                                                                                                             |
| Visible Emissions: The Permittee shall check the Scrubber stack (SV 012) for any visible emissions once each day of operation during daylight hours. The Permittee shall read and record the pressure drop and liquid flow rate across CE 012, once each day of operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subps. 4 and 5 |
| Pressure Drop: greater than or equal to <del>4.0</del> inches of water column and less than or equal to <del>6.0</del> inches of water column across CE 012.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subps. 4 and 5 |
| Liquid Flow Rate: greater than or equal to 65 gallons/minute through CE 012.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Minn. 7007.0800, subp. 4(B)                                                                                                                                                                                                                                     |
| Recordkeeping of Visible Emissions, Pressure Drop and Liquid Flow Rate. The Permittee shall record the time and date of each pressure drop and liquid flow rate reading, whether or not any visible emissions were observed, and whether or not the observed pressure drop liquid flow rate were within the ranges specified in this permit.                                                                                                                                                                                                                                                                                                                                                                                                                                  | Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subps. 4 and 5 |
| Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:<br><br>- visible emissions are observed;<br>- the recorded pressure drop and/or liquid flow rate are outside the required operating ranges; or<br>- CE 012 or any of its components are found during the inspections to need repair.<br><br>Corrective actions shall return the pressure drop and/or liquid flow rate to within the permitted ranges and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the CE 012. The Permittee shall keep a record of the type and date of any corrective action taken for CE 012. | Minn. R. 7007.0800, subps. 4, 5 and 14                                                                                                                                                                                                                          |
| Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Minn. R. 7007.0800, subps. 4, 5 and 14                                                                                                                                                                                                                          |

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

If multiple copies of these tables are used, indicate which number this page is over the total number of pages of these tables (e.g., 1/3): 1/24

| 3a) Delta ID No.:        |              | EU002         |            |            |                   | EU003         |            |            |                   | EU005         |            |            |                   |
|--------------------------|--------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   |
| PM                       |              | 1.47          | 59.83      | 6.45       |                   | 1.06          | 46.27      | 4.63       |                   | 0.007         | 3.20       | 0.03       |                   |
| PM10                     |              | 1.30          | 53.80      | 5.70       |                   | 1.02          | 44.55      | 4.45       |                   | 0.005         | 2.06       | 0.02       |                   |
| PM2.5                    |              | 0.78          | 32.14      | 3.43       |                   | 0.97          | 42.39      | 4.24       |                   | 0.005         | 2.06       | 0.02       |                   |
| NOx                      |              | 0.71          | 3.13       | 3.13       |                   |               |            |            |                   |               |            |            |                   |
| CO                       |              | 0.41          | 1.80       | 1.80       |                   |               |            |            |                   |               |            |            |                   |
| SO2                      |              | 0.25          | 1.11       | 1.11       |                   |               |            |            |                   |               |            |            |                   |
| VOC                      |              | 0.13          | 0.59       | 0.59       |                   | 0.17          | 0.74       | 0.74       |                   |               |            |            |                   |
| CO2e                     |              | 799           | 3,501      | 3,501      |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthene             | 83-32-9      | 7.54E-07      | 3.30E-06   | 3.30E-06   |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthylene           | 208-96-8     | 9.04E-09      | 3.96E-08   | 3.96E-08   |                   |               |            |            |                   |               |            |            |                   |
| Anthracene               | 120-12-7     | 4.36E-08      | 1.91E-07   | 1.91E-07   |                   |               |            |            |                   |               |            |            |                   |
| Benz(a)anthracene        | 56-55-3      | 1.43E-07      | 6.27E-07   | 6.27E-07   |                   |               |            |            |                   |               |            |            |                   |
| Benzene                  | 71-43-2      | 1.03E-05      | 4.51E-05   | 4.51E-05   |                   |               |            |            |                   |               |            |            |                   |
| Benzo(a)pyrene           | 50-32-8      | 5.88E-09      | 2.58E-08   | 2.58E-08   |                   |               |            |            |                   |               |            |            |                   |

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

If multiple copies of these tables are used, indicate which number this page is over the total number of pages of these tables (e.g., 1/3): 2/24

| 3a) Delta ID No.:        |              | EU006         |            |            |                   | EU009         |            |            |                   | EU010         |            |            |                   |
|--------------------------|--------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   |
| PM                       |              | 0.41          | 1.81       | 1.81       |                   | 0.07          | 31.97      | 0.32       |                   | 0.07          | 31.97      | 0.32       |                   |
| PM10                     |              | 0.29          | 1.26       | 1.26       |                   | 0.05          | 20.59      | 0.21       |                   | 0.05          | 20.59      | 0.21       |                   |
| PM2.5                    |              | 0.19          | 0.85       | 0.85       |                   | 0.05          | 20.59      | 0.21       |                   | 0.05          | 20.59      | 0.21       |                   |
| NOx                      |              | 3.14          | 13.75      | 13.75      |                   |               |            |            |                   |               |            |            |                   |
| CO                       |              | 1.45          | 6.34       | 6.34       |                   |               |            |            |                   |               |            |            |                   |
| SO2                      |              | 2.20          | 9.63       | 9.63       |                   |               |            |            |                   |               |            |            |                   |
| VOC                      |              | 0.15          | 0.67       | 0.67       |                   |               |            |            |                   |               |            |            |                   |
| CO2e                     |              | 3,179         | 13,922     | 13,922     |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthene             | 83-32-9      | 3.09E-06      | 1.35E-05   | 1.35E-05   |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthylene           | 208-96-8     | 3.71E-08      | 1.62E-07   | 1.62E-07   |                   |               |            |            |                   |               |            |            |                   |
| Anthracene               | 120-12-7     | 1.79E-07      | 7.83E-07   | 7.83E-07   |                   |               |            |            |                   |               |            |            |                   |
| Benz(a)anthracene        | 56-55-3      | 5.87E-07      | 2.57E-06   | 2.57E-06   |                   |               |            |            |                   |               |            |            |                   |
| Benzene                  | 71-43-2      | 3.62E-05      | 1.59E-04   | 1.59E-04   |                   |               |            |            |                   |               |            |            |                   |
| Benzo(a)pyrene           | 50-32-8      | 2.07E-08      | 9.06E-08   | 9.06E-08   |                   |               |            |            |                   |               |            |            |                   |





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

If multiple copies of these tables are used, indicate which number this page is over the total number of pages of these tables (e.g., 1/3): 3/24

| 3a) Delta ID No.:        |              | EU011         |            |            |                   | EU012         |            |            |                   | EU013         |            |            |                   |
|--------------------------|--------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   |
| PM                       |              | 0.34          | 14.67      | 1.47       |                   | 1.00          | 43.80      | 4.38       |                   | 1.00          | 43.80      | 4.38       |                   |
| PM10                     |              | 0.28          | 12.47      | 1.25       |                   | 0.90          | 39.20      | 3.92       |                   | 0.90          | 39.20      | 3.92       |                   |
| PM2.5                    |              | 0.10          | 4.40       | 0.44       |                   | 0.51          | 22.34      | 2.23       |                   | 0.51          | 22.34      | 2.23       |                   |
| NOx                      |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| CO                       |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| SO2                      |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| VOC                      |              |               |            |            |                   | 1.06          | 4.66       | 4.66       |                   | 1.06          | 4.66       | 4.66       |                   |
| CO2e                     |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthene             | 83-32-9      |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthylene           | 208-96-8     |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Anthracene               | 120-12-7     |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Benz(a)anthracene        | 56-55-3      |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Benzene                  | 71-43-2      |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Benzo(a)pyrene           | 50-32-8      |               |            |            |                   |               |            |            |                   |               |            |            |                   |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

If multiple copies of these tables are used, indicate which number this page is over the total number of pages of these tables (e.g., 1/3): 4/24

| 3a) Delta ID No.:        |              | EU014         |            |            |                   | EU020         |            |            |                   | EU021         |            |            |                   |
|--------------------------|--------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   |
| PM                       |              | 0.01          | 4.00       | 0.04       |                   | 1.52          | 66.39      | 6.64       |                   | 0.43          | 18.78      | 1.88       |                   |
| PM10                     |              | 0.01          | 2.57       | 0.03       |                   | 1.36          | 59.42      | 5.94       |                   | 0.38          | 16.80      | 1.68       |                   |
| PM2.5                    |              | 0.01          | 2.57       | 0.03       |                   | 0.77          | 33.86      | 3.39       |                   | 0.22          | 9.58       | 0.96       |                   |
| NOx                      |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| CO                       |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| SO2                      |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| VOC                      |              |               |            |            |                   | 1.61          | 7.05       | 7.05       |                   | 0.46          | 1.99       | 1.99       |                   |
| CO2e                     |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthene             | 83-32-9      |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthylene           | 208-96-8     |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Anthracene               | 120-12-7     |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Benz(a)anthracene        | 56-55-3      |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Benzene                  | 71-43-2      |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Benzo(a)pyrene           | 50-32-8      |               |            |            |                   |               |            |            |                   |               |            |            |                   |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
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**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

If multiple copies of these tables are used, indicate which number this page is over the total number of pages of these tables (e.g., 1/3): 5/24

| 3a) Delta ID No.:        |              | EU022         |            |            |                   | EU023         |            |            |                   | FS001         |            |            |                   |
|--------------------------|--------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   |
| PM                       |              | 0.17          | 7.23       | 0.72       |                   | 3.85          | 16.86      | 16.86      |                   | 0.12          | 0.52       | 0.52       |                   |
| PM10                     |              | 0.14          | 6.15       | 0.61       |                   | 2.38          | 10.42      | 10.42      |                   | 0.02          | 0.10       | 0.10       |                   |
| PM2.5                    |              | 0.05          | 2.17       | 0.22       |                   | 1.28          | 5.60       | 5.60       |                   | 0.01          | 0.02       | 0.02       |                   |
| NOx                      |              |               |            |            |                   | 10.04         | 76.65      | 43.99      |                   |               |            |            |                   |
| CO                       |              |               |            |            |                   | 8.07          | 35.35      | 35.35      |                   |               |            |            |                   |
| SO2                      |              |               |            |            |                   | 12.25         | 53.66      | 53.66      |                   |               |            |            |                   |
| VOC                      |              |               |            |            |                   | 0.86          | 3.75       | 3.75       |                   |               |            |            |                   |
| CO2e                     |              |               |            |            |                   | 17,719        | 77,611     | 77,611     |                   |               |            |            |                   |
| Acenaphthene             | 83-32-9      |               |            |            |                   | 1.72E-05      | 7.55E-05   | 7.55E-05   |                   |               |            |            |                   |
| Acenaphthylene           | 208-96-8     |               |            |            |                   | 2.07E-07      | 9.05E-07   | 9.05E-07   |                   |               |            |            |                   |
| Anthracene               | 120-12-7     |               |            |            |                   | 9.96E-07      | 4.36E-06   | 4.36E-06   |                   |               |            |            |                   |
| Benz(a)anthracene        | 56-55-3      |               |            |            |                   | 3.27E-06      | 1.43E-05   | 1.43E-05   |                   |               |            |            |                   |
| Benzene                  | 71-43-2      |               |            |            |                   | 2.02E-04      | 8.84E-04   | 8.84E-04   |                   |               |            |            |                   |
| Benzo(a)pyrene           | 50-32-8      |               |            |            |                   | 1.15E-07      | 5.05E-07   | 5.05E-07   |                   |               |            |            |                   |



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1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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|                          |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
|--------------------------|--------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|---------------|------------|------------|-------------------|
| 3a) Delta ID No.:        |              | FS002         |            |            |                   |               |            |            |                   |               |            |            |                   |
| 3b) Tempo SI ID No.:     |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy | 3e) Potential |            |            | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>tpy |                   |
| PM                       |              | 0.056755      | 0.248588   | 0.248588   |                   |               |            |            |                   |               |            |            |                   |
| PM10                     |              | 0.01415       | 0.061977   | 0.061977   |                   |               |            |            |                   |               |            |            |                   |
| PM2.5                    |              | 0.001415      | 0.006198   | 0.006198   |                   |               |            |            |                   |               |            |            |                   |
| NOx                      |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| CO                       |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| SO2                      |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| VOC                      |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| CO2e                     |              |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthene             | 83-32-9      |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Acenaphthylene           | 208-96-8     |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Anthracene               | 120-12-7     |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Benz(a)anthracene        | 56-55-3      |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Benzene                  | 71-43-2      |               |            |            |                   |               |            |            |                   |               |            |            |                   |
| Benzo(a)pyrene           | 50-32-8      |               |            |            |                   |               |            |            |                   |               |            |            |                   |

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:              |              | EU002         |            |              |                   | EU003         |            |              |                   | EU005         |            |              |                   |
|--------------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:           |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name       | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                                |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Benzo(b)fluoranthene           | 205-99-2     | 5.29E-08      | 2.32E-07   | 2.32E-07     |                   |               |            |              |                   |               |            |              |                   |
| Benzo(g,h,i)perylene           | 191-4-2      | 8.07E-08      | 3.54E-07   | 3.54E-07     |                   |               |            |              |                   |               |            |              |                   |
| Benzo(k)fluoranthene           | 207-08-9     | 5.29E-08      | 2.32E-07   | 2.32E-07     |                   |               |            |              |                   |               |            |              |                   |
| Chrysene                       | 218-01-9     | 8.50E-08      | 3.72E-07   | 3.72E-07     |                   |               |            |              |                   |               |            |              |                   |
| Dibenzo(a,h)anthracene         | 53-70-3      | 5.88E-06      | 2.58E-05   | 2.58E-05     |                   |               |            |              |                   |               |            |              |                   |
| Dichlorobenzene                | 25321-22-6   | 5.88E-06      | 2.58E-05   | 2.58E-05     |                   |               |            |              |                   |               |            |              |                   |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6      | 7.84E-08      | 3.44E-07   | 3.44E-07     |                   |               |            |              |                   |               |            |              |                   |
| Ethylbenzene                   | 100-41-4     | 2.27E-06      | 9.95E-06   | 9.95E-06     |                   |               |            |              |                   |               |            |              |                   |
| Fluoranthene                   | 206-44-0     | 1.73E-07      | 7.57E-07   | 7.57E-07     |                   |               |            |              |                   |               |            |              |                   |
| Fluorene                       | 86-73-7      | 1.60E-07      | 6.99E-07   | 6.99E-07     |                   |               |            |              |                   |               |            |              |                   |
| Formaldehyde                   | 50-00-0      | 1.18E-03      | 5.16E-03   | 5.16E-03     |                   |               |            |              |                   |               |            |              |                   |
| Hexane                         | 110-54-3     | 8.82E-03      | 3.86E-02   | 3.86E-02     |                   |               |            |              |                   |               |            |              |                   |
| Indendo(1,2,3-cd)pyrene        | 193-39-5     | 7.64E-08      | 3.35E-07   | 3.35E-07     |                   |               |            |              |                   |               |            |              |                   |
| 2-Methylnaphthalene            | 91-57-6      | 1.18E-07      | 5.15E-07   | 5.15E-07     |                   |               |            |              |                   |               |            |              |                   |

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:              |              | EU006         |            |              |                   | EU009         |            |              |                   | EU010         |            |              |                   |
|--------------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:           |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name       | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                                |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Benzo(b)fluoranthene           | 205-99-2     | 2.17E-07      | 9.50E-07   | 9.50E-07     |                   |               |            |              |                   |               |            |              |                   |
| Benzo(g,h,i)perylene           | 191-4-2      | 3.31E-07      | 1.45E-06   | 1.45E-06     |                   |               |            |              |                   |               |            |              |                   |
| Benzo(k)fluoranthene           | 207-08-9     | 2.17E-07      | 9.50E-07   | 9.50E-07     |                   |               |            |              |                   |               |            |              |                   |
| Chrysene                       | 218-01-9     | 3.49E-07      | 1.53E-06   | 1.53E-06     |                   |               |            |              |                   |               |            |              |                   |
| Dibenzo(a,h)anthracene         | 53-70-3      | 2.07E-05      | 9.06E-05   | 9.06E-05     |                   |               |            |              |                   |               |            |              |                   |
| Dichlorobenzene                | 25321-22-6   | 2.07E-05      | 9.06E-05   | 9.06E-05     |                   |               |            |              |                   |               |            |              |                   |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6      | 2.76E-07      | 1.21E-06   | 1.21E-06     |                   |               |            |              |                   |               |            |              |                   |
| Ethylbenzene                   | 100-41-4     | 9.32E-06      | 4.08E-05   | 4.08E-05     |                   |               |            |              |                   |               |            |              |                   |
| Fluoranthene                   | 206-44-0     | 7.09E-07      | 3.11E-06   | 3.11E-06     |                   |               |            |              |                   |               |            |              |                   |
| Fluorene                       | 86-73-7      | 6.55E-07      | 2.87E-06   | 2.87E-06     |                   |               |            |              |                   |               |            |              |                   |
| Formaldehyde                   | 50-00-0      | 4.14E-03      | 1.81E-02   | 1.81E-02     |                   |               |            |              |                   |               |            |              |                   |
| Hexane                         | 110-54-3     | 3.10E-02      | 1.36E-01   | 1.36E-01     |                   |               |            |              |                   |               |            |              |                   |
| Indendo(1,2,3-cd)pyrene        | 193-39-5     | 3.14E-07      | 1.37E-06   | 1.37E-06     |                   |               |            |              |                   |               |            |              |                   |
| 2-Methylnaphthalene            | 91-57-6      | 4.14E-07      | 1.81E-06   | 1.81E-06     |                   |               |            |              |                   |               |            |              |                   |



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Control Agency**

520 Lafayette Road North  
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**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:              |              | EU011         |            |              |                   | EU012         |            |              |                   | EU013         |            |              |                   |
|--------------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:           |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name       | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                                |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Benzo(b)fluoranthene           | 205-99-2     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Benzo(g,h,i)perylene           | 191-4-2      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Benzo(k)fluoranthene           | 207-08-9     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Chrysene                       | 218-01-9     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Dibenzo(a,h)anthracene         | 53-70-3      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Dichlorobenzene                | 25321-22-6   |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Ethylbenzene                   | 100-41-4     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Fluoranthene                   | 206-44-0     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Fluorene                       | 86-73-7      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Formaldehyde                   | 50-00-0      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Hexane                         | 110-54-3     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Indeno(1,2,3-cd)pyrene         | 193-39-5     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 2-Methylnaphthalene            | 91-57-6      |               |            |              |                   |               |            |              |                   |               |            |              |                   |

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:              |              | EU014         |            |              |                   | EU020         |            |              |                   | EU021         |            |              |                   |
|--------------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:           |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name       | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                                |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Benzo(b)fluoranthene           | 205-99-2     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Benzo(g,h,i)perylene           | 191-4-2      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Benzo(k)fluoranthene           | 207-08-9     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Chrysene                       | 218-01-9     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Dibenzo(a,h)anthracene         | 53-70-3      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Dichlorobenzene                | 25321-22-6   |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Ethylbenzene                   | 100-41-4     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Fluoranthene                   | 206-44-0     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Fluorene                       | 86-73-7      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Formaldehyde                   | 50-00-0      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Hexane                         | 110-54-3     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Indeno(1,2,3-cd)pyrene         | 193-39-5     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 2-Methylnaphthalene            | 91-57-6      |               |            |              |                   |               |            |              |                   |               |            |              |                   |



1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:              |              | EU022         |            |              |                   | EU023         |            |              |                   | FS001         |            |              |                   |
|--------------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:           |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name       | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                                |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Benzo(b)fluoranthene           | 205-99-2     |               |            |              |                   | 1.21E-06      | 5.29E-06   | 5.29E-06     |                   |               |            |              |                   |
| Benzo(g,h,i)perylene           | 191-4-2      |               |            |              |                   | 1.85E-06      | 8.08E-06   | 8.08E-06     |                   |               |            |              |                   |
| Benzo(k)fluoranthene           | 207-08-9     |               |            |              |                   | 1.21E-06      | 5.29E-06   | 5.29E-06     |                   |               |            |              |                   |
| Chrysene                       | 218-01-9     |               |            |              |                   | 1.94E-06      | 8.51E-06   | 8.51E-06     |                   |               |            |              |                   |
| Dibenzo(a,h)anthracene         | 53-70-3      |               |            |              |                   | 1.15E-04      | 5.05E-04   | 5.05E-04     |                   |               |            |              |                   |
| Dichlorobenzene                | 25321-22-6   |               |            |              |                   | 1.15E-04      | 5.05E-04   | 5.05E-04     |                   |               |            |              |                   |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6      |               |            |              |                   | 1.54E-06      | 6.73E-06   | 6.73E-06     |                   |               |            |              |                   |
| Ethylbenzene                   | 100-41-4     |               |            |              |                   | 5.19E-05      | 2.27E-04   | 2.27E-04     |                   |               |            |              |                   |
| Fluoranthene                   | 206-44-0     |               |            |              |                   | 3.95E-06      | 1.73E-05   | 1.73E-05     |                   |               |            |              |                   |
| Fluorene                       | 86-73-7      |               |            |              |                   | 3.65E-06      | 1.60E-05   | 1.60E-05     |                   |               |            |              |                   |
| Formaldehyde                   | 50-00-0      |               |            |              |                   | 2.31E-02      | 1.01E-01   | 1.01E-01     |                   |               |            |              |                   |
| Hexane                         | 110-54-3     |               |            |              |                   | 1.73E-01      | 7.57E-01   | 7.57E-01     |                   |               |            |              |                   |
| Indendo(1,2,3-cd)pyrene        | 193-39-5     |               |            |              |                   | 1.75E-06      | 7.65E-06   | 7.65E-06     |                   |               |            |              |                   |
| 2-Methylnaphthalene            | 91-57-6      |               |            |              |                   | 2.31E-06      | 1.01E-05   | 1.01E-05     |                   |               |            |              |                   |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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|                                |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|--------------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3a) Delta ID No.:              |              | FS002         |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3b) Tempo SI ID No.:           |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name       | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                                |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Benzo(b)fluoranthene           | 205-99-2     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Benzo(g,h,i)perylene           | 191-4-2      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Benzo(k)fluoranthene           | 207-08-9     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Chrysene                       | 218-01-9     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Dibenzo(a,h)anthracene         | 53-70-3      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Dichlorobenzene                | 25321-22-6   |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Ethylbenzene                   | 100-41-4     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Fluoranthene                   | 206-44-0     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Fluorene                       | 86-73-7      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Formaldehyde                   | 50-00-0      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Hexane                         | 110-54-3     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Indeno(1,2,3-cd)pyrene         | 193-39-5     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 2-Methylnaphthalene            | 91-57-6      |               |            |              |                   |               |            |              |                   |               |            |              |                   |

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:        |              | EU002         |            |              |                   | EU003         |            |              |                   | EU005         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| 3-Methylchloranthrene    | 56-49-5      | 8.82E-09      | 3.86E-08   | 3.86E-08     |                   |               |            |              |                   |               |            |              |                   |
| Naphthalene              | 91-20-3      | 4.04E-05      | 1.77E-04   | 1.77E-04     |                   |               |            |              |                   |               |            |              |                   |
| Phenanthrene             | 85-01-8      | 3.75E-07      | 1.64E-06   | 1.64E-06     |                   |               |            |              |                   |               |            |              |                   |
| Pyrene                   | 129-00-0     | 1.52E-07      | 6.65E-07   | 6.65E-07     |                   |               |            |              |                   |               |            |              |                   |
| Toluene                  | 108-88-3     | 2.21E-04      | 9.70E-04   | 9.70E-04     |                   |               |            |              |                   |               |            |              |                   |
| 1,1,1-Trichloroethane    | 71-55-6      | 8.43E-06      | 3.69E-05   | 3.69E-05     |                   |               |            |              |                   |               |            |              |                   |
| Xylenes                  | 1330-20-7    | 3.89E-06      | 1.71E-05   | 1.71E-05     |                   |               |            |              |                   |               |            |              |                   |
| Arsenic compounds        | 7440-38-2    | 9.80E-07      | 4.29E-06   | 4.29E-06     |                   |               |            |              |                   |               |            |              |                   |
| Beryllium compounds      | 7440-41-7    | 5.88E-08      | 2.58E-07   | 2.58E-07     |                   |               |            |              |                   |               |            |              |                   |
| Cadmium compounds        | 7440-43-9    | 5.39E-06      | 2.36E-05   | 2.36E-05     |                   |               |            |              |                   |               |            |              |                   |
| Chromium compounds       | 7440-47-3    | 6.86E-06      | 3.01E-05   | 3.01E-05     |                   |               |            |              |                   |               |            |              |                   |
| Cobalt compounds         | 7440-48-4    | 4.12E-07      | 1.80E-06   | 1.80E-06     |                   |               |            |              |                   |               |            |              |                   |
| Lead compounds           | 7439-92-1    | 2.45E-06      | 1.07E-05   | 1.07E-05     |                   |               |            |              |                   |               |            |              |                   |
| Manganese compounds      | 7439-96-5    | 1.86E-06      | 8.16E-06   | 8.16E-06     |                   |               |            |              |                   |               |            |              |                   |

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:        |              | EU006         |            |              |                   | EU009         |            |              |                   | EU010         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| 3-Methylchloranthrene    | 56-49-5      | 3.10E-08      | 1.36E-07   | 1.36E-07     |                   |               |            |              |                   |               |            |              |                   |
| Naphthalene              | 91-20-3      | 1.66E-04      | 7.25E-04   | 7.25E-04     |                   |               |            |              |                   |               |            |              |                   |
| Phenanthrene             | 85-01-8      | 1.54E-06      | 6.74E-06   | 6.74E-06     |                   |               |            |              |                   |               |            |              |                   |
| Pyrene                   | 129-00-0     | 6.23E-07      | 2.73E-06   | 2.73E-06     |                   |               |            |              |                   |               |            |              |                   |
| Toluene                  | 108-88-3     | 9.08E-04      | 3.98E-03   | 3.98E-03     |                   |               |            |              |                   |               |            |              |                   |
| 1,1,1-Trichloroethane    | 71-55-6      | 3.46E-05      | 1.51E-04   | 1.51E-04     |                   |               |            |              |                   |               |            |              |                   |
| Xylenes                  | 1330-20-7    | 1.60E-05      | 6.99E-05   | 6.99E-05     |                   |               |            |              |                   |               |            |              |                   |
| Arsenic compounds        | 7440-38-2    | 3.45E-06      | 1.51E-05   | 1.51E-05     |                   |               |            |              |                   |               |            |              |                   |
| Beryllium compounds      | 7440-41-7    | 2.07E-07      | 9.06E-07   | 9.06E-07     |                   |               |            |              |                   |               |            |              |                   |
| Cadmium compounds        | 7440-43-9    | 1.90E-05      | 8.30E-05   | 8.30E-05     |                   |               |            |              |                   |               |            |              |                   |
| Chromium compounds       | 7440-47-3    | 2.41E-05      | 1.06E-04   | 1.06E-04     |                   |               |            |              |                   |               |            |              |                   |
| Cobalt compounds         | 7440-48-4    | 1.45E-06      | 6.34E-06   | 6.34E-06     |                   |               |            |              |                   |               |            |              |                   |
| Lead compounds           | 7439-92-1    | 8.62E-06      | 3.77E-05   | 3.77E-05     |                   |               |            |              |                   |               |            |              |                   |
| Manganese compounds      | 7439-96-5    | 6.55E-06      | 1.96E-05   | 1.96E-05     |                   |               |            |              |                   |               |            |              |                   |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:        |              | EU011         |            |              |                   | EU012         |            |              |                   | EU013         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| 3-Methylchloranthrene    | 56-49-5      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Naphthalene              | 91-20-3      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Phenanthrene             | 85-01-8      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Pyrene                   | 129-00-0     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Toluene                  | 108-88-3     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 1,1,1-Trichloroethane    | 71-55-6      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Xylenes                  | 1330-20-7    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Arsenic compounds        | 7440-38-2    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Beryllium compounds      | 7440-41-7    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Cadmium compounds        | 7440-43-9    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Chromium compounds       | 7440-47-3    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Cobalt compounds         | 7440-48-4    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Lead compounds           | 7439-92-1    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Manganese compounds      | 7439-96-5    |               |            |              |                   |               |            |              |                   |               |            |              |                   |

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:        |              | EU014         |            |              |                   | EU020         |            |              |                   | EU021         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| 3-Methylchloranthrene    | 56-49-5      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Naphthalene              | 91-20-3      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Phenanthrene             | 85-01-8      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Pyrene                   | 129-00-0     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Toluene                  | 108-88-3     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 1,1,1-Trichloroethane    | 71-55-6      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Xylenes                  | 1330-20-7    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Arsenic compounds        | 7440-38-2    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Beryllium compounds      | 7440-41-7    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Cadmium compounds        | 7440-43-9    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Chromium compounds       | 7440-47-3    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Cobalt compounds         | 7440-48-4    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Lead compounds           | 7439-92-1    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Manganese compounds      | 7439-96-5    |               |            |              |                   |               |            |              |                   |               |            |              |                   |

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:        |              | EU022         |            |              |                   | EU023         |            |              |                   | FS001         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| 3-Methylchloranthrene    | 56-49-5      |               |            |              |                   | 1.73E-07      | 7.57E-07   | 7.57E-07     |                   |               |            |              |                   |
| Naphthalene              | 91-20-3      |               |            |              |                   | 9.23E-04      | 4.04E-03   | 4.04E-03     |                   |               |            |              |                   |
| Phenanthrene             | 85-01-8      |               |            |              |                   | 8.58E-06      | 3.76E-05   | 3.76E-05     |                   |               |            |              |                   |
| Pyrene                   | 129-00-0     |               |            |              |                   | 3.47E-06      | 1.52E-05   | 1.52E-05     |                   |               |            |              |                   |
| Toluene                  | 108-88-3     |               |            |              |                   | 5.06E-03      | 2.22E-02   | 2.22E-02     |                   |               |            |              |                   |
| 1,1,1-Trichloroethane    | 71-55-6      |               |            |              |                   | 1.93E-04      | 8.44E-04   | 8.44E-04     |                   |               |            |              |                   |
| Xylenes                  | 1330-20-7    |               |            |              |                   | 8.90E-05      | 3.90E-04   | 3.90E-04     |                   |               |            |              |                   |
| Arsenic compounds        | 7440-38-2    |               |            |              |                   | 1.92E-05      | 8.42E-05   | 8.42E-05     |                   |               |            |              |                   |
| Beryllium compounds      | 7440-41-7    |               |            |              |                   | 1.15E-06      | 5.05E-06   | 5.05E-06     |                   |               |            |              |                   |
| Cadmium compounds        | 7440-43-9    |               |            |              |                   | 1.06E-04      | 4.63E-04   | 4.63E-04     |                   |               |            |              |                   |
| Chromium compounds       | 7440-47-3    |               |            |              |                   | 1.35E-04      | 5.89E-04   | 5.89E-04     |                   |               |            |              |                   |
| Cobalt compounds         | 7440-48-4    |               |            |              |                   | 8.07E-06      | 3.53E-05   | 3.53E-05     |                   |               |            |              |                   |
| Lead compounds           | 7439-92-1    |               |            |              |                   | 4.80E-05      | 2.10E-04   | 2.10E-04     |                   |               |            |              |                   |
| Manganese compounds      | 7439-96-5    |               |            |              |                   | 3.65E-05      | 1.60E-04   | 1.60E-04     |                   |               |            |              |                   |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3a) Delta ID No.:        |              | FS002         |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| 3-Methylchloranthrene    | 56-49-5      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Naphthalene              | 91-20-3      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Phenanthrene             | 85-01-8      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Pyrene                   | 129-00-0     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Toluene                  | 108-88-3     |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 1,1,1-Trichloroethane    | 71-55-6      |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Xylenes                  | 1330-20-7    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Arsenic compounds        | 7440-38-2    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Beryllium compounds      | 7440-41-7    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Cadmium compounds        | 7440-43-9    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Chromium compounds       | 7440-47-3    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Cobalt compounds         | 7440-48-4    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Lead compounds           | 7439-92-1    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Manganese compounds      | 7439-96-5    |               |            |              |                   |               |            |              |                   |               |            |              |                   |





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

If multiple copies of these tables are used, indicate which number this page is over the total number of pages of these tables (e.g., 1/3): 19/24

| 3a) Delta ID No.:        |              | EU002         |            |              |                   | EU003         |            |              |                   | EU005         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Mercury compounds        | 7439-97-6    | 1.27E-06      | 5.58E-06   | 5.58E-06     |                   |               |            |              |                   |               |            |              |                   |
| Nickel compounds         | 7440-02-0    | 1.03E-05      | 4.51E-05   | 4.51E-05     |                   |               |            |              |                   |               |            |              |                   |
| Selenium compounds       | 7789-49-2    | 1.18E-07      | 5.15E-07   | 5.15E-07     |                   |               |            |              |                   |               |            |              |                   |
| CO2                      |              | 796           | 3,488      | 3,488        |                   |               |            |              |                   |               |            |              |                   |
| CH4                      |              | 0.01          | 0.05       | 0.05         |                   |               |            |              |                   |               |            |              |                   |
| N2O                      |              | 0.05          | 0.22       | 0.22         |                   |               |            |              |                   |               |            |              |                   |
| GHG                      |              | 796           | 3,488      | 3,488        |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
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**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

If multiple copies of these tables are used, indicate which number this page is over the total number of pages of these tables (e.g., 1/3): 20/24

| 3a) Delta ID No.:        |              | EU006         |            |              |                   | EU009         |            |              |                   | EU010         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Mercury compounds        | 7439-97-6    | 4.48E-06      | 1.96E-05   | 1.96E-05     |                   |               |            |              |                   |               |            |              |                   |
| Nickel compounds         | 7440-02-0    | 3.62E-05      | 1.59E-04   | 1.59E-04     |                   |               |            |              |                   |               |            |              |                   |
| Selenium compounds       | 7789-49-2    | 4.14E-07      | 1.81E-06   | 1.81E-06     |                   |               |            |              |                   |               |            |              |                   |
| CO2                      |              | 3,161         | 13,846     | 13,846       |                   |               |            |              |                   |               |            |              |                   |
| CH4                      |              | 0.04          | 0.17       | 0.17         |                   |               |            |              |                   |               |            |              |                   |
| N2O                      |              | 0.17          | 0.76       | 0.76         |                   |               |            |              |                   |               |            |              |                   |
| GHG                      |              | 3,161         | 13,846     | 13,846       |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
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**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

If multiple copies of these tables are used, indicate which number this page is over the total number of pages of these tables (e.g., 1/3): 21/24

| 3a) Delta ID No.:        |              | EU011         |            |              |                   | EU012         |            |              |                   | EU013         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Mercury compounds        | 7439-97-6    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Nickel compounds         | 7440-02-0    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Selenium compounds       | 7789-49-2    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| CO2                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| CH4                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| N2O                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| GHG                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
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**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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| 3a) Delta ID No.:        |              | EU014         |            |              |                   | EU020         |            |              |                   | EU021         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Mercury compounds        | 7439-97-6    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Nickel compounds         | 7440-02-0    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Selenium compounds       | 7789-49-2    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| CO2                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| CH4                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| N2O                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| GHG                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
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**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-07**

**Facility Emissions Summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.:

2) Facility Name: Sanimax USA, LLC

If multiple copies of these tables are used, indicate which number this page is over the total number of pages of these tables (e.g., 1/3): 23/24

| 3a) Delta ID No.:        |              | EU022         |            |              |                   | EU023         |            |              |                   | FS001         |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Mercury compounds        | 7439-97-6    |               |            |              |                   | 2.50E-05      | 1.09E-04   | 1.09E-04     |                   |               |            |              |                   |
| Nickel compounds         | 7440-02-0    |               |            |              |                   | 2.02E-04      | 8.84E-04   | 8.84E-04     |                   |               |            |              |                   |
| Selenium compounds       | 7789-49-2    |               |            |              |                   | 2.31E-06      | 1.01E-05   | 1.01E-05     |                   |               |            |              |                   |
| CO2                      |              |               |            |              |                   | 17,622        | 77,185     | 77,185       |                   |               |            |              |                   |
| CH4                      |              |               |            |              |                   | 0.22          | 0.97       | 0.97         |                   |               |            |              |                   |
| N2O                      |              |               |            |              |                   | 0.96          | 4.22       | 4.22         |                   |               |            |              |                   |
| GHG                      |              |               |            |              |                   | 17,623        | 77,187     | 77,187       |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
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Instructions on Page 2

1a) AQ Facility ID No.: 03700070 1b) Agency Interest ID No.: \_\_\_\_\_

2) Facility Name: Sanimax USA, LLC

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|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|--------------------------|--------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|---------------|------------|--------------|-------------------|
| 3a) Delta ID No.:        |              | FS002         |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3b) Tempo SI ID No.:     |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| 3c)<br>Pollutant<br>Name | 3d)<br>CAS # | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy | 3e) Potential |            |              | 3f)<br>Actual tpy |
|                          |              | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   | Lbs per<br>Hr | Unc<br>tpy | Lim<br>(tpy) |                   |
| Mercury compounds        | 7439-97-6    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Nickel compounds         | 7440-02-0    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| Selenium compounds       | 7789-49-2    |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| CO2                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| CH4                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| N2O                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
| GHG                      |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
|                          |              |               |            |              |                   |               |            |              |                   |               |            |              |                   |
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## Emissions Summary Table

If multiple copies of these tables are used, indicate which number this page is over the total number of pages: 1/4

| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|-----------------------|---------------------|----------|-------------------------|-----------------------|---------------------|----------|-------------------------|
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| CO                    | 43.49               | 43.49    |                         | NO <sub>x</sub>       | 93.53               | 60.87    |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| PM                    | 390.59              | 49.93    |                         | PM <sub>10</sub>      | 329.08              | 39.63    |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| PM <sub>2.5</sub>     | 221.46              | 24.05    |                         | SO <sub>2</sub>       | 64.39               | 64.39    |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| VOC                   | 24.61               | 24.61    |                         | CO <sub>2e</sub>      | 95,034              | 95,034   |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| CO <sub>2</sub>       | 94,519              | 94,519   |                         | GHG                   | 94,521              | 94,521   |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| CH <sub>4</sub>       | 1.19                | 1.19     |                         | N <sub>2</sub> O      | 5.19                | 5.19     |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Acenaphthene          | 9.23E-05            | 9.23E-05 |                         | Acenaphthylene        | 1.11E-06            | 1.11E-06 |                         |

- 5) ☒ Application is being submitted on a compact disc (CD), and the editable calculation spreadsheet(s) are included on the CD.  
☐ Application is being submitted on paper, and editable calculation spreadsheet(s) are included on an enclosed CD.

## Emissions Summary Table

If multiple copies of these tables are used, indicate which number this page is over the total number of pages: 2/4

| 4a)<br>Pollutant Name          | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|--------------------------------|---------------------|----------|-------------------------|-----------------------|---------------------|----------|-------------------------|
|                                | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Anthracene                     | 5.34E-06            | 5.34E-06 |                         | Benzo(a)anthracene    | 1.75E-05            | 1.75E-05 |                         |
| 4a)<br>Pollutant Name          | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                                | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Benzene                        | 1.09E-03            | 1.09E-03 |                         | Benzo(a)pyrene        | 6.21E-07            | 6.21E-07 |                         |
| 4a)<br>Pollutant Name          | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                                | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Benzo(b)fluoranthene           | 6.48E-06            | 6.48E-06 |                         | Benzo(g,h,i)perylene  | 9.89E-06            | 9.89E-06 |                         |
| 4a)<br>Pollutant Name          | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                                | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Benzo(k)fluoranthene           | 6.48E-06            | 6.48E-06 |                         | Chrysene              | 1.04E-05            | 1.04E-05 |                         |
| 4a)<br>Pollutant Name          | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                                | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Dibenzo(a,h)anthracene         | 6.21E-04            | 6.21E-04 |                         | Dichlorobenzene       | 6.21E-04            | 6.21E-04 |                         |
| 4a)<br>Pollutant Name          | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                                | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| 7,12-Dimethylbenz(a)anthracene | 8.28E-06            | 8.28E-06 |                         | Ethylbenzene          | 2.78E-04            | 2.78E-04 |                         |
| 4a)<br>Pollutant Name          | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                                | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Fluoranthene                   | 2.12E-05            | 2.12E-05 |                         | Fluorene              | 1.96E-05            | 1.96E-05 |                         |

- 5) ☒ Application is being submitted on a compact disc (CD), and the editable calculation spreadsheet(s) are included on the CD.  
☐ Application is being submitted on paper, and editable calculation spreadsheet(s) are included on an enclosed CD.



## Emissions Summary Table

If multiple copies of these tables are used, indicate which number this page is over the total number of pages: 3/4

| 4a)<br>Pollutant Name  | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|------------------------|---------------------|----------|-------------------------|-----------------------|---------------------|----------|-------------------------|
|                        | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Formaldehyde           | 1.24E-01            | 1.24E-01 |                         | Hexane                | 9.32E-01            | 9.32E-01 |                         |
|                        |                     |          |                         |                       |                     |          |                         |
| 4a)<br>Pollutant Name  | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                        | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Indeno(1,2,3-cd)pyrene | 9.36E-06            | 9.36E-06 |                         | 2-Methylnaphthalene   | 1.24E-05            | 1.24E-05 |                         |
|                        |                     |          |                         |                       |                     |          |                         |
| 4a)<br>Pollutant Name  | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                        | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| 3-Methylchroanthrene   | 9.32E-07            | 9.32E-07 |                         | Naphthalene           | 4.94E-03            | 4.94E-03 |                         |
|                        |                     |          |                         |                       |                     |          |                         |
| 4a)<br>Pollutant Name  | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                        | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Phenanthrene           | 4.59E-05            | 4.59E-05 |                         | Pyrene                | 1.86E-05            | 1.86E-05 |                         |
|                        |                     |          |                         |                       |                     |          |                         |
| 4a)<br>Pollutant Name  | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                        | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Toluene                | 2.71E-02            | 2.71E-02 |                         | 1,1,1-Trichloroethane | 1.03E-03            | 1.03E-03 |                         |
|                        |                     |          |                         |                       |                     |          |                         |
| 4a)<br>Pollutant Name  | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                        | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Xylenes                | 4.77E-04            | 4.77E-04 |                         | Arsenic Compounds     | 1.04E-04            | 1.04E-04 |                         |
|                        |                     |          |                         |                       |                     |          |                         |
| 4a)<br>Pollutant Name  | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                        | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Beryllium compounds    | 6.21E-06            | 6.21E-06 |                         | Cadmium compounds     | 5.70E-04            | 5.70E-04 |                         |

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## Emissions Summary Table

If multiple copies of these tables are used, indicate which number this page is over the total number of pages: 4/4

| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|-----------------------|---------------------|----------|-------------------------|-----------------------|---------------------|----------|-------------------------|
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Chromium compounds    | 7.25E-04            | 7.25E-04 |                         | Cobalt compounds      | 4.35E-05            | 4.35E-05 |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Lead compounds        | 2.59E-04            | 2.59E-04 |                         | Manganese compounds   | 1.97E-04            | 1.97E-04 |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Mercury compounds     | 1.35E-04            | 1.35E-04 |                         | Nickel compounds      | 1.09E-03            | 1.09E-03 |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
| Selenium compounds    | 1.24E-05            | 1.24E-05 |                         |                       |                     |          |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
|                       |                     |          |                         |                       |                     |          |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
|                       |                     |          |                         |                       |                     |          |                         |
| 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year | 4a)<br>Pollutant Name | 4b) Potential (tpy) |          | 4c) Actual<br>tons/year |
|                       | Unrestricted        | Limited  |                         |                       | Unrestricted        | Limited  |                         |
|                       |                     |          |                         |                       |                     |          |                         |

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**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-02**

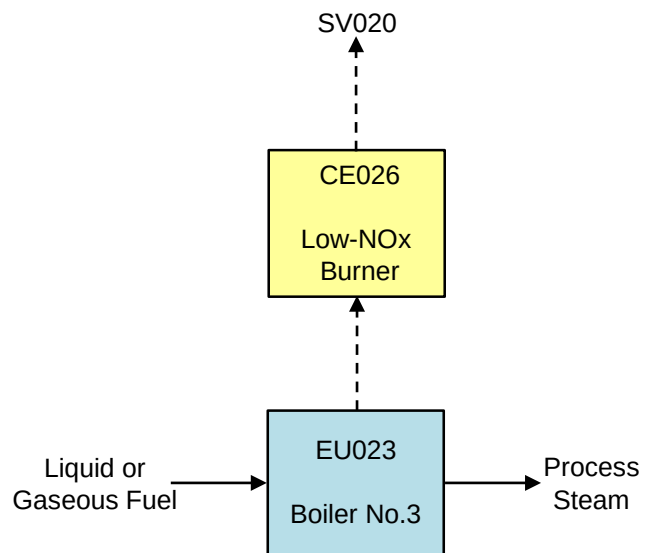
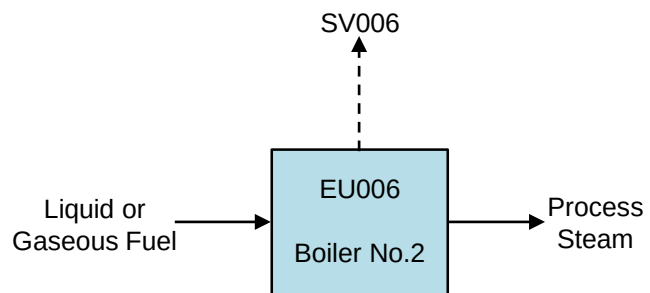
Process Flow Diagram  
Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 2**

- 1a)** AQ Facility ID No.: 03700070
- 1b)** AQ File No.: 578
- 2)** Facility Name: Sanimax USA, LLC
- 3)** Flow Diagram: (insert flow diagram below or attach a separate sheet)

## Boilers



### Legend

-  Non-emitting Process Unit
-  Emission Unit
-  Control Equipment
-  Process Line
-  Emissions



**Minnesota  
Pollution  
Control  
Agency**

AIR QUALITY  
520 LAFAYETTE ROAD  
ST. PAUL, MN 55155-4194

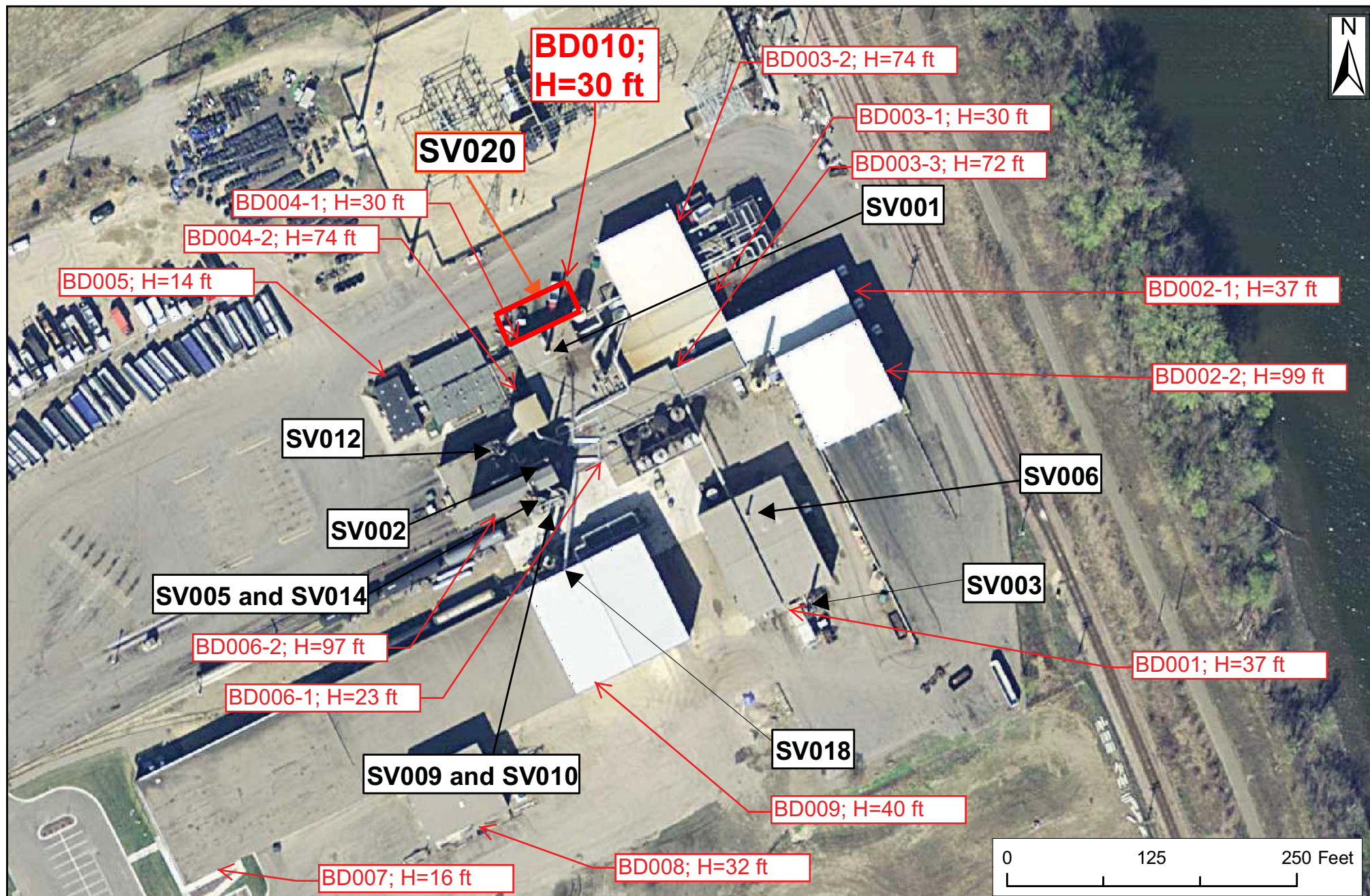
PERMIT APPLICATION FORM **GI-03**  
**FACILITY AND STACK/VENT DIAGRAM**  
2/16/05

---

1) AQ Facility ID No.: **03700070**

2) Facility Name: **Sanimax USA, LLC**

3) Facility and Stack/Vent Diagram:



3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110  
PHONE: (651) 490-2000  
FAX: (888) 908-8166  
TF: (800) 325-2055  
www.sehinc.com

Project: NACME 123033  
Print Date: 1/10/2013

Map by: RB/bpt  
Projection: UTM NAD83  
Source: LMIC, USGS

**Proposed Stack SV020 Stack Location**  
Sanimax USA Inc  
Saint Paul, MN

**Figure  
1**

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-04**

**Stack/Vent (SV) Information  
Air Quality Permit Program**

*Doc Type: Permit Application*

**1a)** AQ Facility ID No.: 03700070 **1b)** Agency Interest ID No.: \_\_\_\_\_

**2)** Facility Name: Sanimax USA, LLC

**Form GI-05F Emission Source Association must also be completed and submitted whenever this form is required.**

|                                                 |                   |  |  |  |
|-------------------------------------------------|-------------------|--|--|--|
| <b>3a) SV ID No.</b>                            | 020               |  |  |  |
| <b>3b) Stack/Vent Operator's Description</b>    | Boiler #3 Exhaust |  |  |  |
| <b>3c) Height of Opening From Ground (feet)</b> | 90                |  |  |  |
| <b>3d) Inside Diameter (feet)</b>               | 3                 |  |  |  |
| <b>Length (feet)</b>                            |                   |  |  |  |
| <b>Width (feet)</b>                             |                   |  |  |  |
| <b>3e) Design Flow Rate (cubic feet / min)</b>  | 21100             |  |  |  |
| <b>3f) Exit Gas Temp. (°F)</b>                  | 315               |  |  |  |
| <b>3g) Flow Rate/Temp Information Source</b>    | E                 |  |  |  |
| <b>3h) Discharge Direction</b>                  | U                 |  |  |  |
| <b>3i) Status</b>                               | Active            |  |  |  |
| <b>3j) Removal Date (mm/dd/yyyy)</b>            |                   |  |  |  |
| <b>3k) Reasons for Changes/Modifications</b>    |                   |  |  |  |





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-05A**

**Pollution Control Equipment Information**  
**Air Quality Permit Program**

*Doc Type: Permit Application*

**Instructions on Page 2**

**1a)** AQ Facility ID No.: 03700070 **1b)** Agency Interest ID No.: \_\_\_\_\_

**2)** Facility name: Sanimax USA, LLC

**Form GI-05F Emission Source Association must also be completed and submitted whenever this form is required.**

| 3a)<br>Control<br>equip<br>ID no. | 3b)<br>CE type<br>code | 3c)<br>Description                | 3d)<br>Manufacturer | 3e)<br>Model no. | 3f)<br>Pollutants<br>controlled | 3g)<br>Capture<br>efficiency | 3h)<br>Destruct/<br>collect<br>efficiency | 3i)<br>Afterburner/<br>Oxidizer<br>combustion<br>parameters |
|-----------------------------------|------------------------|-----------------------------------|---------------------|------------------|---------------------------------|------------------------------|-------------------------------------------|-------------------------------------------------------------|
| 001                               | 053                    | Blood Process Venturi<br>Scrubber | SCP Control         | PT75K            | PM/PM10/PM2.<br>5               | 100%                         | 90%                                       |                                                             |
| 003                               | 053                    | PRF Venturi Scrubber              | SCP Control         | PT40K            | PM/PM10/PM2.<br>5               | 100%                         | 90%                                       |                                                             |
| 012                               | 053                    | Cookers Venturi Scrubber          | SCP Control         | PT18K            | PM/PM10/PM2.<br>5               | 100%                         | 90%                                       |                                                             |
| 026                               | 205                    | Low-NOx Burner                    | TBD                 | TBD              | NOx                             | 100%                         | 20-50%                                    |                                                             |
|                                   |                        |                                   |                     |                  |                                 |                              |                                           |                                                             |
|                                   |                        |                                   |                     |                  |                                 |                              |                                           |                                                             |
|                                   |                        |                                   |                     |                  |                                 |                              |                                           |                                                             |
|                                   |                        |                                   |                     |                  |                                 |                              |                                           |                                                             |
|                                   |                        |                                   |                     |                  |                                 |                              |                                           |                                                             |
|                                   |                        |                                   |                     |                  |                                 |                              |                                           |                                                             |





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CD-05**

**Compliance Plan for Control Equipment  
Air Quality Permit Program**

*Doc Type: Permit Application*

**Facility Information**

1a) AQ Facility ID No.: 03700070 1b) AQ File No.: 578

2) Facility Name: Sanimax USA, LLC

**3) Electrostatic Precipitators (includes wet electrostatic precipitators) (control codes 010, 011, 012, 128, 146)**

Complete the following information for each electrostatic precipitator not already included in an existing individual permit. For changes to parameters of electrostatic precipitators already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                               | Voltage | Secondary Current | Minimum Fields Online | Using conditioning agent?                                   | Conditioning agent flow rate, if applicable | Subject to CAM?                                             | For a "Large" or "Other" PSEU?                                                                  |
|------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------|---------|-------------------|-----------------------|-------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |         |                   |                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                             | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large<br><input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |         |                   |                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                             | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large<br><input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |         |                   |                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                             | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large<br><input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |         |                   |                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                             | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large<br><input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |         |                   |                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                             | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large<br><input type="checkbox"/> Other<br><input type="checkbox"/> NA |

CAM = Compliance Assurance Monitoring

PSEU = Pollutant specific emission unit

#### 4) Fabric Filters (control codes 016, 017, 018)

Complete the following information for each fabric filter not already included in an existing individual permit. For changes to parameters for fabric filters already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                            | Pressure Drop (inches of water column) | Bag leak detector in use?                                | Subject to CAM?                                          | For a "Large" or "Other" PSEU?                                                               |
|------------|---------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------|
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |

#### 5) Panel/Wall Filters (including HEPA filters) (control codes 058, 101) Mechanically Aided Separators (control code 056, 113)

Complete the following information for each wall or panel filter not already included in an existing individual permit. For changes to parameters for filters already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                            | Subject to CAM?                                          | For a "Large" or "Other" PSEU?                                                            |
|------------|---------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------|
|            |                                                                                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |

**6) Cyclones/Multiclones (control code 007, 008, 009, 076)**

Complete the following information for each cyclone or multiclone not already included in an existing individual permit. For changes to parameters for cyclones or multiclones already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                            | Pressure Drop (inches of water column) | Subject to CAM?                                          | For a "Large" or "Other" PSEU?                                                            |
|------------|---------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------|
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |

**7) Wet Cyclone Separator (control code 057, 085)**

Complete the following information for each wet cyclone separator not already included in an existing individual permit. For changes to parameters for wet cyclone separators already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                            | Pressure Drop (inches of water column) | Water pressure (psi) | Subject to CAM?                                          | For a "Large" or "Other" PSEU?                                                               |
|------------|---------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------|----------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------|
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                      | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                      | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                      | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                      | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                      | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                      | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |

**8) Spray Tower (control code 052), Venturi Scrubber (control code 053), Impingement Plate Scrubber (control code 055), or Charged Scrubber (control code 503)**

Complete the following information for each wet scrubber not already included in an existing individual permit. For changes to parameters for wet scrubbers already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                                       | Pressure Drop (inches of water column) | Liquid flow rate (gal/min) | Subject to CAM?                                                     | For a "Large" or "Other" PSEU?                                                                          |
|------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------|----------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 001        | Facility estimate                                                                     | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes | 3.5 to 7.0                             | at least 48                | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input checked="" type="checkbox"/> NA |
| 003        | Facility estimate                                                                     | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes | 3.5 to 7.0                             | at least 16                | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input checked="" type="checkbox"/> NA |
| 012        | Facility estimate                                                                     | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes | 3.5 to 7.0                             | at least 65                | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input checked="" type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes            |                                        |                            | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA            |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes            |                                        |                            | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA            |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes            |                                        |                            | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA            |

**9) Condensation Scrubber (control code 517)**

Complete the following information for each condensation scrubber not already included in an existing individual permit. For changes to parameters for condensation scrubbers already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                            | Pressure Drop (inches of water column) | Steam Supply rate (units) | Blowdown Rate (units) | Subject to CAM?                                          | For a "Large" or "Other" PSEU?                                                               |
|------------|---------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------|---------------------------|-----------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------|
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                           |                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                           |                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                           |                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                           |                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                        |                           |                       | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |

**10) Thermal Oxidation (control code 021, 022, 131, 133, 510)**

Complete the following information for each thermal oxidizer not already included in an existing individual permit. For changes to parameters for thermal oxidizers already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                               | Combustion Temperature (degrees F) | Inlet and Outlet Temperatures (degrees F) | Residence Time (seconds) | Subject to CAM?                                             | For a "Large" or "Other" PSEU?                                                               |
|------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------|-------------------------------------------|--------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                    | Inlet: _____<br>Outlet: _____             |                          | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                    | Inlet: _____<br>Outlet: _____             |                          | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                    | Inlet: _____<br>Outlet: _____             |                          | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                    | Inlet: _____<br>Outlet: _____             |                          | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No<br><input type="checkbox"/> Yes |                                    | Inlet: _____<br>Outlet: _____             |                          | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |

**11) Catalytic Oxidation (control code 019, 020, 109, 116, 509)**

Complete the following information for each catalytic oxidizer not already included in an existing individual permit. For changes to parameters for catalytic oxidizers already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                            | Catalyst Bed Reactivity (units) | Inlet and Outlet Temperatures (degrees F) | Subject to CAM?                                          | For a "Large" or "Other" PSEU?                                                               |
|------------|---------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------|-------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------|
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                 | Inlet: _____<br>Outlet: _____             | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                 | Inlet: _____<br>Outlet: _____             | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                 | Inlet: _____<br>Outlet: _____             | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                 | Inlet: _____<br>Outlet: _____             | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                 | Inlet: _____<br>Outlet: _____             | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |

**12) Vapor Recovery Systems (including condensers) (control code 047)**

Complete the following information for each vapor recovery system not already included in an existing individual permit. For changes to parameters for vapor recovery systems already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Temperature Range (degrees F) | Condenser Pressure Drop Range (inches of water column) | Filter Pressure Drop Range (inches of water column) | Subject to CAM?                                          | For a "Large" or "Other" PSEU?                                                               |
|------------|---------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------|
|            |                                                                                       |                               |                                                        |                                                     | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       |                               |                                                        |                                                     | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       |                               |                                                        |                                                     | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       |                               |                                                        |                                                     | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |
|            |                                                                                       |                               |                                                        |                                                     | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other<br><input type="checkbox"/> NA |

**13) Flaring (control code 023)**

Complete the following information for each flare not already included in an existing individual permit. For changes to parameters for cyclones or multiclones already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Using control equipment rule?                            | Temperature (indicating presence of flame) (degrees F) | Subject to CAM?                                          | For a "Large" or "Other" PSEU?                                                            |
|------------|---------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------|
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |
|            |                                                                                       | <input type="checkbox"/> No <input type="checkbox"/> Yes |                                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA |

**13) Other Controls**

Complete the following information for each control device not described above and not already included in an existing individual permit. For changes to parameters for any other control devices that are already included in an existing permit, attach a copy of the relevant permit page with proposed changes clearly marked.

| CE Number: | Control Efficiency Basis (for control and capture efficiencies listed on Form GI-05A) | Operating Parameters (describe)                                 | Subject to CAM?                                                     | For a "Large" or "Other" PSEU?                                                                       |
|------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 026        | Manufacturer                                                                          | Operate low-NOx burner according to manufacturer's instructions | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Large <input type="checkbox"/> Other <input checked="" type="checkbox"/> NA |
|            |                                                                                       |                                                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA            |
|            |                                                                                       |                                                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA            |
|            |                                                                                       |                                                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA            |
|            |                                                                                       |                                                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input type="checkbox"/> Large <input type="checkbox"/> Other <input type="checkbox"/> NA            |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-05B**

Emission Unit Information  
Air Quality Permit Program

Doc Type: Permit Application

**Instructions on Page 2**

**1a)** AQ Facility ID No.: 03700070 **1b)** Agency Interest ID No.: \_\_\_\_\_

**2)** Facility Name: Sanimax USA, LLC

**3)** Fill in a column in the table below for each new or modified emission unit (EU). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

|                                                     |                                                      |                                           |                                           |                                           |
|-----------------------------------------------------|------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| 3a) Emission Unit ID No.                            | 023                                                  |                                           |                                           |                                           |
| 3b) Emission Unit Type                              | Boiler                                               |                                           |                                           |                                           |
| 3c) Emission Unit Operator's Description            | 98 MMBtu/hr Boiler                                   |                                           |                                           |                                           |
| 3d) Manufacturer                                    | TBD                                                  |                                           |                                           |                                           |
| 3e) Model No.                                       | TBD                                                  |                                           |                                           |                                           |
| 3f) Max Design Capacity                             | 98 Units: Mmbtu/ Hr                                  | Units: /                                  | Units: /                                  | Units: /                                  |
| 3g) Commence Construction Date (MM/DD/YYYY)         | <input checked="" type="checkbox"/> to be determined | <input type="checkbox"/> to be determined | <input type="checkbox"/> to be determined | <input type="checkbox"/> to be determined |
| 3h) Initial Startup Date (MM/DD/YYYY)               | <input checked="" type="checkbox"/> to be determined | <input type="checkbox"/> to be determined | <input type="checkbox"/> to be determined | <input type="checkbox"/> to be determined |
| 3i) Modification or Reconstructed Date (MM/DD/YYYY) |                                                      |                                           |                                           |                                           |
| 3j) Firing Method                                   | Not coal burning                                     |                                           |                                           |                                           |
| 3k) Engine Use                                      |                                                      |                                           |                                           |                                           |
| 3l) Engine Displacement                             | Units:                                               | Units:                                    | Units:                                    | Units:                                    |
| 3m) SIC Code                                        |                                                      |                                           |                                           |                                           |
| 3n) Status                                          | Active                                               |                                           |                                           |                                           |
| 3o) Removal Date                                    |                                                      |                                           |                                           |                                           |
| 3p) Reasons for Changes/Modifications               |                                                      |                                           |                                           |                                           |



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**GI-05F**

Emission Source Associations  
Air Quality Permit Program

Doc Type: Permit Application

**Instructions on Page 3**

1a) Agency Interest ID No.: \_\_\_\_\_ 1b) AQ Facility ID No.: 03700070

2) Facility Name: Sanimax USA, LLC

| 3a)<br>Source<br>ID No. | 3b)<br>%<br>Flow | 3c)<br>Relationship | 3d)<br>CE ID No. | 3e)<br>Start Date<br>(MM/DD/YYYY) | 3f)<br>End Date<br>(MM/DD/YYYY) | 3g)<br>Relationship | 3h)<br>S/V ID No. | 3i)<br>Start Date<br>(MM/DD/YYYY) | 3j)<br>End Date<br>(MM/DD/YYYY) | 3k)<br>Comments                                                        |
|-------------------------|------------------|---------------------|------------------|-----------------------------------|---------------------------------|---------------------|-------------------|-----------------------------------|---------------------------------|------------------------------------------------------------------------|
| EU 023                  | 100              | is controlled by    | CE 026           |                                   |                                 | sends to            | SV 020            |                                   |                                 | EU 023 is a boiler. CE 026 is a low-NOx burner. The start date is TBD. |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |
|                         |                  | is controlled by    |                  |                                   |                                 | sends to            |                   |                                   |                                 |                                                                        |



# ELECTRONIC CODE OF FEDERAL REGULATIONS

**e-CFR Data is current as of June 18, 2013**

Title 40: Protection of Environment

**PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

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## Subpart A—General Provisions

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### § 60.1 Applicability.

(a) Except as provided in subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(b) Any new or revised standard of performance promulgated pursuant to section 111(b) of the Act shall apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of such new or revised standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(c) In addition to complying with the provisions of this part, the owner or operator of an affected facility may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to Title V of the Clean Air Act (Act) as amended November 15, 1990 (42 U.S.C. 7661). For more information about obtaining an operating permit see part 70 of this chapter.

(d) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* (1) This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site").

(2) Except for compliance with 40 CFR 60.49b(u), the site shall have the option of either complying directly with the requirements of this part, or reducing the site-wide emissions caps in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the site-wide emissions caps in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this part.

(3) Notwithstanding the provisions of paragraph (d)(2) of this section, for any provisions of this part except for Subpart Kb, the owner/operator of the site shall comply with the applicable provisions of this part if the Administrator determines that compliance with the provisions of this part is necessary for achieving the objectives of the regulation and the Administrator notifies the site in accordance with the provisions of the permit issued pursuant to 40 CFR 52.2454.

[40 FR 53346, Nov. 17, 1975, as amended at 55 FR 51382, Dec. 13, 1990; 59 FR 12427, Mar. 16, 1994; 62 FR 52641, Oct. 8, 1997]

## **§ 60.2 Definitions.**

The terms used in this part are defined in the Act or in this section as follows:

*Act* means the Clean Air Act (42 U.S.C. 7401 *et seq.* )

*Administrator* means the Administrator of the Environmental Protection Agency or his authorized representative.

*Affected facility* means, with reference to a stationary source, any apparatus to which a standard is applicable.

*Alternative method* means any method of sampling and analyzing for an air pollutant which is not a reference or equivalent method but which has been demonstrated to the Administrator's satisfaction to, in specific cases, produce results adequate for his determination of compliance.

*Approved permit program* means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to Title V of the Act (42 U.S.C. 7661).

*Capital expenditure* means an expenditure for a physical or operational change to an existing facility which exceeds the product of the applicable "annual asset guideline repair allowance percentage" specified in the latest edition of Internal Revenue Service (IRS) Publication 534 and the existing facility's basis, as defined by section 1012 of the Internal Revenue Code. However, the total expenditure for a physical or operational change to an existing facility must not be reduced by any "excluded additions" as defined in IRS Publication 534, as would be done for tax purposes.

*Clean coal technology demonstration project* means a project using funds appropriated under the heading 'Department of Energy-Clean Coal Technology', up to a total amount of \$2,500,000,000 for commercial demonstrations of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency.

*Commenced* means, with respect to the definition of *new source* in section 111(a)(2) of the Act, that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

*Construction* means fabrication, erection, or installation of an affected facility.

*Continuous monitoring system* means the total equipment, required under the emission monitoring sections in applicable subparts, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

*Electric utility steam generating unit* means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

*Equivalent method* means any method of sampling and analyzing for an air pollutant which has been demonstrated to the Administrator's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specified conditions.

*Excess Emissions and Monitoring Systems Performance Report* is a report that must be submitted periodically by a source in order to provide data on its compliance with stated emission limits and operating parameters, and on the performance of its monitoring systems.

*Existing facility* means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type.

*Force majeure* means, for purposes of § 60.8, an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

*Isokinetic sampling* means sampling in which the linear velocity of the gas entering the sampling nozzle is equal to that of the undisturbed gas stream at the sample point.

*Issuance* of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a Title V permit occurs immediately after the EPA takes final action on the final permit.

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

*Modification* means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.

*Monitoring device* means the total equipment, required under the monitoring of operations sections in applicable subparts, used to measure and record (if applicable) process parameters.

*Nitrogen oxides* means all oxides of nitrogen except nitrous oxide, as measured by test methods set forth in this part.

*One-hour period* means any 60-minute period commencing on the hour.

*Opacity* means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

*Owner or operator* means any person who owns, leases, operates, controls, or supervises an affected facility or a stationary source of which an affected facility is a part.

*Part 70 permit* means any permit issued, renewed, or revised pursuant to part 70 of this chapter.

*Particulate matter* means any finely divided solid or liquid material, other than uncombined water, as measured by the reference methods specified under each applicable subpart, or an equivalent or alternative method.

*Permit program* means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

*Permitting authority* means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

*Proportional sampling* means sampling at a rate that produces a constant ratio of sampling rate to stack gas flow rate.

*Reactivation of a very clean coal-fired electric utility steam generating unit* means any physical change or change in the method of operation associated with the commencement of commercial operations by a coal-fired utility unit after a period of discontinued operation where the unit:

(1) Has not been in operation for the two-year period prior to the enactment of the Clean Air Act Amendments of 1990, and the emissions from such unit continue to be carried in the permitting authority's emissions inventory at the time of enactment;

(2) Was equipped prior to shut-down with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of no less than 85 percent and a removal efficiency for particulates of no less than 98 percent;

(3) Is equipped with low-NO<sub>x</sub> burners prior to the time of commencement of operations following reactivation; and

(4) Is otherwise in compliance with the requirements of the Clean Air Act.

*Reference method* means any method of sampling and analyzing for an air pollutant as specified in the applicable subpart.

*Repowering* means replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste

reduction relative to the performance of technology in widespread commercial use as of November 15, 1990. Repowering shall also include any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

*Run* means the net period of time during which an emission sample is collected. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

*Shutdown* means the cessation of operation of an affected facility for any purpose.

*Six-minute period* means any one of the 10 equal parts of a one-hour period.

*Standard* means a standard of performance proposed or promulgated under this part.

*Standard conditions* means a temperature of 293 K (68F) and a pressure of 101.3 kilopascals (29.92 in Hg).

*Startup* means the setting in operation of an affected facility for any purpose.

*State* means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement: (1) The provisions of this part; and/or (2) the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

*Stationary source* means any building, structure, facility, or installation which emits or may emit any air pollutant.

*Title V permit* means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

*Volatile Organic Compound* means any organic compound which participates in atmospheric photochemical reactions; or which is measured by a reference method, an equivalent method, an alternative method, or which is determined by procedures specified under any subpart.

[44 FR 55173, Sept. 25, 1979, as amended at 45 FR 5617, Jan. 23, 1980; 45 FR 85415, Dec. 24, 1980; 54 FR 6662, Feb. 14, 1989; 55 FR 51382, Dec. 13, 1990; 57 FR 32338, July 21, 1992; 59 FR 12427, Mar. 16, 1994; 72 FR 27442, May 16, 2007]

### § 60.3 Units and abbreviations.

Used in this part are abbreviations and symbols of units of measure. These are defined as follows:

(a) System International (SI) units of measure:

A—ampere

g—gram

Hz—hertz

J—joule

K—degree Kelvin

kg—kilogram

m—meter

m<sup>3</sup>—cubic meter

mg—milligram— $10^{-3}$  gram

mm—millimeter— $10^{-3}$  meter

Mg—megagram— $10^6$  gram

mol—mole

N—newton

ng—nanogram— $10^{-9}$  gram

nm—nanometer— $10^{-9}$  meter

Pa—pascal

s—second

V—volt

W—watt

$\Omega$ —ohm

$\mu\text{g}$ —microgram— $10^{-6}$  gram

(b) Other units of measure:

Btu—British thermal unit

$^{\circ}\text{C}$ —degree Celsius (centigrade)

cal—calorie

cfm—cubic feet per minute

cu ft—cubic feet

dcf—dry cubic feet

dcm—dry cubic meter

dscf—dry cubic feet at standard conditions

dscm—dry cubic meter at standard conditions

eq—equivalent

$^{\circ}\text{F}$ —degree Fahrenheit

ft—feet

gal—gallon

gr—grain

g-eq—gram equivalent

hr—hour

in—inch

k—1,000

l—liter

lpm—liter per minute

lb—pound

meq—milliequivalent

min—minute

ml—milliliter

mol. wt.—molecular weight

ppb—parts per billion

ppm—parts per million

psia—pounds per square inch absolute

psig—pounds per square inch gage

°R—degree Rankine

scf—cubic feet at standard conditions

scfh—cubic feet per hour at standard conditions

scm—cubic meter at standard conditions

sec—second

sq ft—square feet

std—at standard conditions

(c) Chemical nomenclature:

CdS—cadmium sulfide

CO—carbon monoxide

CO<sub>2</sub> —carbon dioxide

HCl—hydrochloric acid

Hg—mercury

H<sub>2</sub> O—water

H<sub>2</sub> S—hydrogen sulfide

H<sub>2</sub> SO<sub>4</sub> —sulfuric acid

N<sub>2</sub> —nitrogen

NO—nitric oxide

NO<sub>2</sub> —nitrogen dioxide

NO<sub>x</sub> —nitrogen oxides

O<sub>2</sub> —oxygen

SO<sub>2</sub> —sulfur dioxide

SO<sub>3</sub> —sulfur trioxide

SO<sub>x</sub> —sulfur oxides

(d) Miscellaneous:

A.S.T.M.—American Society for Testing and Materials

[42 FR 37000, July 19, 1977; 42 FR 38178, July 27, 1977]

**§ 60.4 Address.**

[Link to an amendment published at 78 FR 25187, Apr. 30, 2013.](#)

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted in duplicate to the appropriate Regional Office of the U.S. Environmental Protection Agency to the attention of the Director of the Division indicated in the following list of EPA Regional Offices.

Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), Director, Office of Ecosystem Protection, U.S. Environmental Protection Agency, 5 Post Office Square—Suite 100, Boston, MA 02109-3912.

Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Air and Waste Management Division, U.S. Environmental Protection Agency, Federal Office Building, 26 Federal Plaza (Foley Square), New York, NY 10278.

Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, Mail Code 3AP00, 1650 Arch Street, Philadelphia, PA 19103-2029.

Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee), Director, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, 61 Forsyth St. SW., Suite 9T43, Atlanta, Georgia 30303-8960.

**Region V** (Illinois, Indiana, Michigan, **Minnesota**, Ohio, Wisconsin), Director, Air and Radiation Division, U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, IL 60604-3590.

Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas); Director, Air, Pesticides, and Toxics Division; U.S. Environmental Protection Agency, 1445 Ross Avenue, Dallas, TX 75202.

Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air, RCRA, and Toxics Division, U.S. Environmental Protection Agency, 901 N. 5th Street, Kansas City, KS 66101.

Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming) Director, Air and Toxics Technical Enforcement Program, Office of Enforcement, Compliance and Environmental Justice, Mail Code 8ENF-AT, 1595 Wynkoop Street, Denver, CO 80202-1129.

Region IX (Arizona, California, Hawaii and Nevada; the territories of American Samoa and Guam; the Commonwealth of the Northern Mariana Islands; the territories of Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Atoll, Palmyra Atoll, and Wake Islands; and certain U.S. Government activities in the freely associated states of the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau), Director, Air Division, U.S. Environmental Protection Agency, 75 Hawthorne Street, San Francisco, CA 94105.

Region X (Alaska, Oregon, Idaho, Washington), Director, Air and Waste Management Division, U.S. Environmental Protection Agency, 1200 Sixth Avenue, Seattle, WA 98101.

(b) Section 111(c) directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards of performance for new stationary sources located in such State. All



information required to be submitted to EPA under paragraph (a) of this section, must also be submitted to the appropriate State Agency of any State to which this authority has been delegated (provided, that each specific delegation may except sources from a certain Federal or State reporting requirement). The appropriate mailing address for those States whose delegation request has been approved is as follows:

(A) [Reserved]

(B) State of Alabama: Alabama Department of Environmental Management, P.O. Box 301463, Montgomery, Alabama 36130-1463.

(C) State of Alaska, Department of Environmental Conservation, Pouch O, Juneau, AK 99811.

(D) Arizona:

Arizona Department of Environmental Quality, 1110 West Washington Street, Phoenix, AZ 85007.

Maricopa County Air Quality Department, 1001 North Central Avenue, Suite 900, Phoenix, AZ 85004.

Pima County Department of Environmental Quality, 33 North Stone Avenue, Suite 700, Tucson, AZ 85701.

Pinal County Air Quality Control District, 31 North Pinal Street, Building F, Florence, AZ 85132.

NOTE: For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(E) State of Arkansas: Chief, Division of Air Pollution Control, Arkansas Department of Pollution Control and Ecology, 8001 National Drive, P.O. Box 9583, Little Rock, AR 72209.

(F) California:

Amador County Air Pollution Control District, 12200-B Airport Road, Jackson, CA 95642.

Antelope Valley Air Quality Management District, 43301 Division Street, Suite 206, Lancaster, CA 93535.

Bay Area Air Quality Management District, 939 Ellis Street, San Francisco, CA 94109.

Butte County Air Quality Management District, 2525 Dominic Drive, Suite J, Chico, CA 95928.

Calaveras County Air Pollution Control District, 891 Mountain Ranch Road, San Andreas, CA 95249.

Colusa County Air Pollution Control District, 100 Sunrise Blvd., Suite A-3, Colusa, CA 95932-3246.

El Dorado County Air Quality Management District, 2850 Fairlane Court, Bldg. C, Placerville, CA 95667-4100.

Eastern Kern Air Pollution Control District, 2700 "M" Street, Suite 302, Bakersfield, CA 93301-2370.

Feather River Air Quality Management District, 1007 Live Oak Blvd., Suite B-3, Yuba City, CA 95991.

Glenn County Air Pollution Control District, 720 N. Colusa Street, P.O. Box 351, Willows, CA 95988-0351.

Great Basin Unified Air Pollution Control District, 157 Short Street, Suite 6, Bishop, CA 93514-3537.

Imperial County Air Pollution Control District, 150 South Ninth Street, El Centro, CA 92243-2801.

Lake County Air Quality Management District, 885 Lakeport Blvd., Lakeport, CA 95453-5405.

Lassen County Air Pollution Control District, 707 Nevada Street, Suite 1, Susanville, CA 96130.

Mariposa County Air Pollution Control District, P.O. Box 5, Mariposa, CA 95338.

Mendocino County Air Quality Management District, 306 E. Gobbi Street, Ukiah, CA 95482-5511.

Modoc County Air Pollution Control District, 619 North Main Street, Alturas, CA 96101.

Mojave Desert Air Quality Management District, 14306 Park Avenue, Victorville, CA 92392-2310.

Monterey Bay Unified Air Pollution Control District, 24580 Silver Cloud Court, Monterey, CA 93940.

North Coast Unified Air Quality Management District, 2300 Myrtle Avenue, Eureka, CA 95501-3327.

Northern Sierra Air Quality Management District, 200 Litton Drive, Suite 320, P.O. Box 2509, Grass Valley, CA 95945-2509.

Northern Sonoma County Air Pollution Control District, 150 Matheson Street, Healdsburg, CA 95448-4908.

Placer County Air Pollution Control District, 3091 County Center Drive, Suite 240, Auburn, CA 95603.

Sacramento Metropolitan Air Quality Management District, 777 12th Street, Third Floor, Sacramento, CA 95814-1908.

San Diego County Air Pollution Control District, 10124 Old Grove Road, San Diego, CA 92131-1649.

San Joaquin Valley Air Pollution Control District, 1990 E. Gettysburg, Fresno, CA 93726.

San Luis Obispo County Air Pollution Control District, 3433 Roberto Court, San Luis Obispo, CA 93401-7126.

Santa Barbara County Air Pollution Control District, 260 North San Antonio Road, Suite A, Santa Barbara, CA 93110-1315.

Shasta County Air Quality Management District, 1855 Placer Street, Suite 101, Redding, CA 96001-1759.

Siskiyou County Air Pollution Control District, 525 So. Foothill Drive, Yreka, CA 96097-3036.

South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, CA 91765-4182.

Tehama County Air Pollution Control District, P.O. Box 8069 (1750 Walnut Street), Red Bluff, CA 96080-0038.

Tuolumne County Air Pollution Control District, 22365 Airport, Columbia, CA 95310.

Ventura County Air Pollution Control District, 669 County Square Drive, 2nd Floor, Ventura, CA 93003-5417.

Yolo-Solano Air Quality Management District, 1947 Galileo Court, Suite 103, Davis, CA 95616-4882.

NOTE: For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(G) State of Colorado, Department of Public Health and Environment, 4300 Cherry Creek Drive South, Denver, CO 80222-1530.

NOTE: For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(H) State of Connecticut, Bureau of Air Management, Department of Environmental Protection, State Office Building, 165 Capitol Avenue, Hartford, CT 06106.

(I) State of Delaware, Department of Natural Resources & Environmental Control, 89 Kings Highway, P.O. Box 1401, Dover, Delaware 19903.

(J) District of Columbia, Department of Public Health, Air Quality Division, 51 N Street, NE., Washington, DC 20002.

(K) State of Florida: Florida Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road, MS 5500, Tallahassee, Florida 32399-2400.

(L) State of Georgia: Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch, 4244 International Parkway, Suite 120, Atlanta, Georgia 30354.

(M) Hawaii:

Clean Air Branch, Hawaii Department of Health, 919 Ala Moana Blvd., Suite 203, Honolulu, HI 96814.

NOTE: For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(N) State of Idaho, Department of Health and Welfare, Statehouse, Boise, ID 83701.

(O) State of Illinois: Illinois Environmental Protection Agency, 1021 North Grand Avenue East, Springfield, Illinois 62794.

(P) State of Indiana: Indiana Department of Environmental Management, Office of Air Quality, 100 North Senate Avenue, Indianapolis, Indiana 46204.

(Q) State of Iowa: Iowa Department of Natural Resources, Environmental Protection Division, Air Quality Bureau, 7900 Hickman Road, Suite 1, Urbandale, IA 50322.

(R) State of Kansas: Kansas Department of Health and Environment, Bureau of Air and Radiation, 1000 S.W. Jackson, Suite 310, Topeka, KS 66612-1366.

(S) Commonwealth of Kentucky: Commonwealth of Kentucky, Energy and Environment Cabinet, Department of Environmental Protection, Division for Air Quality, 200 Fair Oaks Lane, 1st Floor, Frankfort, Kentucky 40610-1403.

Louisville Metro Air Pollution Control District, 850 Barret Avenue, Louisville, Kentucky 40204.

(T) State Louisiana: Louisiana Department of Environmental Quality, P.O. Box 4301, Baton Rouge, Louisiana 70821-4301. For a list of delegated standards for Louisiana (excluding Indian country), see paragraph (e)(2) of this section.

(U) State of Maine, Bureau of Air Quality Control, Department of Environmental Protection, State House, Station No. 17, Augusta, ME 04333.

(V) State of Maryland, Department of the Environment, 1800 Washington Boulevard, Suite 705, Baltimore, Maryland 21230.

(W) Commonwealth of Massachusetts, Division of Air Quality Control, Department of Environmental Protection, One Winter Street, 7th floor, Boston, MA 02108.

(X) State of Michigan: Michigan Department of Natural Resources and Environment, Air Quality Division, P.O. Box 30028, Lansing, Michigan 48909.

(Y) State of Minnesota: Minnesota Pollution Control Agency, Division of Air Quality, 520 Lafayette Road North, St. Paul, Minnesota 55155.

(Z) State of Mississippi: Hand Deliver or Courier: Mississippi Department of Environmental Quality, Office of Pollution Control, Air Division, 515 East Amite Street, Jackson, Mississippi 39201, Mailing Address: Mississippi Department of Environmental Quality, Office of Pollution Control, Air Division, P.O. Box 2261, Jackson, Mississippi 39225.

(AA) State of Missouri: Missouri Department of Natural Resources, Division of Environmental Quality, P.O. Box 176, Jefferson City, MO 65102.

(BB) State of Montana, Department of Environmental Quality, 1520 E. 6th Ave., PO Box 200901, Helena, MT 59620-0901.

NOTE: For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(CC) State of Nebraska, Nebraska Department of Environmental Control, P.O. Box 94877, State House Station, Lincoln, NE 68509.

Lincoln-Lancaster County Health Department, Division of Environmental Health, 2200 St. Marys Avenue, Lincoln, NE 68502

(DD) Nevada:

Nevada Division of Environmental Protection, 901 South Stewart Street, Suite 4001, Carson City, NV 89701-5249.

Clark County Department of Air Quality and Environmental Management, 500 S. Grand Central Parkway, 1st Floor, P.O. Box 555210, Las Vegas, NV 89155-5210.

Washoe County Health District, Air Quality Management Division, 1001 E. 9th Street, Building A, Suite 115A, Reno, NV 89520.

NOTE: For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(EE) State of New Hampshire, Air Resources Division, Department of Environmental Services, 64 North Main Street, Caller Box 2033, Concord, NH 03302-2033.

(FF) State of New Jersey: New Jersey Department of Environmental Protection, Division of Environmental Quality, Enforcement Element, John Fitch Plaza, CN-027, Trenton, NJ 08625.

(1) The following table lists the specific source and pollutant categories that have been delegated to the states in Region II. The (X) symbol is used to indicate each category that has been delegated.

|    | Subpart                                                                                                                                         | State      |          |             |                |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|-------------|----------------|
|    |                                                                                                                                                 | New Jersey | New York | Puerto Rico | Virgin Islands |
| D  | Fossil-Fuel Fired Steam Generators for Which Construction Commenced After August 17, 1971 (Steam Generators and Lignite Fired Steam Generators) | X          | X        | X           | X              |
| Da | Electric Utility Steam Generating Units for Which Construction Commenced After September 18, 1978                                               | X          |          | X           |                |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                                                                      | X          | X        | X           | X              |
| E  | Incinerators                                                                                                                                    | X          | X        | X           | X              |
| F  | Portland Cement Plants                                                                                                                          | X          | X        | X           | X              |
| G  | Nitric Acid Plants                                                                                                                              | X          | X        | X           | X              |
| H  | Sulfuric Acid Plants                                                                                                                            | X          | X        | X           | X              |
| I  | Asphalt Concrete Plants                                                                                                                         | X          | X        | X           | X              |
| J  | Petroleum Refineries—(All Categories)                                                                                                           | X          | X        | X           | X              |
| K  | Storage Vessels for Petroleum Liquids Constructed After June 11, 1973, and prior to May 19, 1978                                                | X          | X        | X           | X              |
| Ka | Storage Vessels for Petroleum Liquids Constructed After May 18, 1978                                                                            | X          | X        | X           |                |
| L  | Secondary Lead Smelters                                                                                                                         | X          | X        | X           | X              |
| M  | Secondary Brass and Bronze Ingot Production Plants                                                                                              | X          | X        | X           | X              |
| N  | Iron and Steel Plants                                                                                                                           | X          | X        | X           | X              |
| O  | Sewage Treatment Plants                                                                                                                         | X          | X        | X           | X              |
| P  | Primary Copper Smelters                                                                                                                         | X          | X        | X           | X              |
| Q  | Primary Zinc Smelters                                                                                                                           | X          | X        | X           | X              |
| R  | Primary Lead Smelters                                                                                                                           | X          | X        | X           | X              |
| S  | Primary Aluminum Reduction Plants                                                                                                               | X          | X        | X           | X              |
| T  | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                                               | X          | X        | X           | X              |
| U  | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                                      | X          | X        | X           | X              |
| V  | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                                      | X          | X        | X           | X              |
| W  | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                                     | X          | X        | X           | X              |
| X  | Phosphate Fertilizer Industry: Granular Triple Superphosphate                                                                                   | X          | X        | X           | X              |
| Y  | Coal Preparation Plants                                                                                                                         | X          | X        | X           | X              |
| Z  | Ferroally Production Facilities                                                                                                                 | X          | X        | X           | X              |
| AA | Steel Plants: Electric Arc Furnaces                                                                                                             | X          | X        | X           | X              |

|     |                                                                                                    |   |   |   |   |
|-----|----------------------------------------------------------------------------------------------------|---|---|---|---|
| AAa | Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels in Steel Plants                     | X | X | X |   |
| BB  | Kraft Pulp Mills                                                                                   | X | X | X |   |
| CC  | Glass Manufacturing Plants                                                                         | X | X | X |   |
| DD  | Grain Elevators                                                                                    | X | X | X |   |
| EE  | Surface Coating of Metal Furniture                                                                 | X | X | X |   |
| GG  | Stationary Gas Turbines                                                                            | X | X | X |   |
| HH  | Lime Plants                                                                                        | X | X | X |   |
| KK  | Lead Acid Battery Manufacturing Plants                                                             | X | X |   |   |
| LL  | Metallic Mineral Processing Plants                                                                 | X | X | X |   |
| MM  | Automobile and Light-Duty Truck Surface Coating Operations                                         | X | X |   |   |
| NN  | Phosphate Rock Plants                                                                              | X | X |   |   |
| PP  | Ammonium Sulfate Manufacturing Plants                                                              | X | X |   |   |
| QQ  | Graphic Art Industry Publication Rotogravure Printing                                              | X | X | X | X |
| RR  | Pressure Sensitive Tape and Label Surface Coating Operations                                       | X | X | X |   |
| SS  | Industrial Surface Coating: Large Appliances                                                       | X | X | X |   |
| TT  | Metal Coil Surface Coating                                                                         | X | X | X |   |
| UU  | Asphalt Processing and Asphalt Roofing Manufacture                                                 | X | X | X |   |
| VV  | Equipment Leaks of Volatile Organic Compounds in Synthetic Organic Chemical Manufacturing Industry | X |   | X |   |
| WW  | Beverage Can Surface Coating Industry                                                              | X | X | X |   |
| XX  | Bulk Gasoline Terminals                                                                            | X | X | X |   |
| FFF | Flexible Vinyl and Urethane Coating and Printing                                                   | X | X | X |   |
| GGG | Equipment Leaks of VOC in Petroleum Refineries                                                     | X |   | X |   |
| HHH | Synthetic Fiber Production Facilities                                                              | X |   | X |   |
| JJJ | Petroleum Dry Cleaners                                                                             | X | X | X |   |
| KKK | Equipment Leaks of VOC from Onshore Natural Gas Processing Plants                                  |   |   |   |   |
| LLL | Onshore Natural Gas Processing Plants; SO <sub>2</sub> Emissions                                   |   | X |   |   |
| OOO | Nonmetallic Mineral Processing Plants                                                              |   | X | X |   |
| PPP | Wool Fiberglass Insulation Manufacturing Plants                                                    |   | X | X |   |

(GG) State of New Mexico: New Mexico Environment Department, 1190 St. Francis Drive, P.O. Box 26110, Santa Fe, New Mexico 87502. Note: For a list of delegated standards for New Mexico (excluding Bernalillo County and Indian country), see paragraph (e)(1) of this section.

(i) Albuquerque-Bernalillo County Air Quality Control Board, c/o Environmental Health Department, P.O. Box 1293, Albuquerque, New Mexico 87103.

(ii) [Reserved]

(HH) New York: New York State Department of Environmental Conservation, 50 Wolf Road Albany, New York 12233, attention: Division of Air Resources.

(II) State of North Carolina: North Carolina Department of Environment and Natural Resources, Division of Air Quality, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641 or local agencies, Forsyth County Environmental Affairs, 201 North Chestnut Street, Winston-Salem, North Carolina 27101 or Forsyth County Air Quality Section, 537 North Spruce Street, Winston-Salem, North Carolina 27101; Mecklenburg County Land Use & Environmental Services Agency, Air Quality, 700 N. Tryon St., Suite 205, Charlotte, North Carolina 28202-2236; Western North Carolina Regional Air Quality Agency, 49 Mount

Carmel Road, Asheville, North Carolina 28806.

(JJ) State of North Dakota, Division of Air Quality, North Dakota Department of Health, P.O. Box 5520, Bismarck, ND 58506-5520.

NOTE: For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(KK) State of Ohio:

(i) Medina, Summit and Portage Counties; Director, Akron Regional Air Quality Management District, 146 South High Street, Room 904, Akron, OH 44308.

(ii) Stark County; Director, Canton City Health Department, Air Pollution Control Division, 420 Market Avenue North, Canton, Ohio 44702-1544.

(iii) Butler, Clermont, Hamilton, and Warren Counties; Director, Hamilton County Department of Environmental Services, 250 William Howard Taft Road, Cincinnati, Ohio 45219-2660.

(iv) Cuyahoga County; Commissioner, Cleveland Department of Public Health, Division of Air Quality, 75 Erieview Plaza 2nd Floor, Cleveland, Ohio 44114.

(v) Clark, Darke, Greene, Miami, Montgomery, and Preble Counties; Director, Regional Air Pollution Control Agency, 117 South Main Street, Dayton, Ohio 45422-1280.

(vi) Lucas County and the City of Rossford (in Wood County); Director, City of Toledo, Division of Environmental Services, 348 South Erie Street, Toledo, OH 43604.

(vii) Adams, Brown, Lawrence, and Scioto Counties; Portsmouth Local Air Agency, 605 Washington Street, Third Floor, Portsmouth, OH 45662.

(viii) Allen, Ashland, Auglaize, Crawford, Defiance, Erie, Fulton, Hancock, Hardin, Henry, Huron, Marion, Mercer, Ottawa, Paulding, Putnam, Richland, Sandusky, Seneca, Van Wert Williams, Wood (Except City of Rossford), and Wyandot Counties; Ohio Environmental Protection Agency, Northwest District Office, Air Pollution Control, 347 North Dunbridge Road, Bowling Green, Ohio 43402.

(ix) Ashtabula, Carroll, Columbiana, Holmes, Lorain, and Wayne Counties; Ohio Environmental Protection Agency, Northeast District Office, Air Pollution Unit, 2110 East Aurora Road, Twinsburg, OH 44087.

(x) Athens, Belmont, Coshocton, Gallia, Guemsey, Harrison, Hocking, Jackson, Jefferson, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Pike, Ross, Tuscarawas, Vinton, and Washington Counties; Ohio Environmental Protection Agency, Southeast District Office, Air Pollution Unit, 2195 Front Street, Logan, OH 43138.

(xi) Champaign, Clinton, Highland, Logan, and Shelby Counties; Ohio Environmental Protection Agency, Southwest District Office, Air Pollution Unit, 401 East Fifth Street, Dayton, Ohio 45402-2911.

(xii) Delaware, Fairfield, Fayette, Franklin, Knox, Licking, Madison, Morrow, Pickaway, and Union Counties; Ohio Environmental Protection Agency, Central District Office, Air Pollution control, 50 West Town Street, Suite 700, Columbus, Ohio 43215.

(xiii) Geauga and Lake Counties; Lake County General Health District, Air Pollution Control, 33 Mill Street, Painesville, OH 44077.

(xiv) Mahoning and Trumbull Counties; Mahoning-Trumbull Air Pollution Control Agency, 345 Oak Hill Avenue, Suite 200, Youngstown, OH 44502.

(LL) State of Oklahoma, Oklahoma State Department of Health, Air Quality Service, P.O. Box 53551,

Oklahoma City, OK 73152.

(i) Oklahoma City and County: Director, Oklahoma City-County Health Department, 921 Northeast 23rd Street, Oklahoma City, OK 73105.

(ii) Tulsa County: Tulsa City-County Health Department, 4616 East Fifteenth Street, Tulsa, OK 74112.

(MM) State of Oregon. (i) Oregon Department of Environmental Quality (ODEQ), 811 SW Sixth Avenue, Portland, OR 97204-1390, <http://www.deq.state.or.us>.

(ii) Lane Regional Air Pollution Authority (LRAPA), 1010 Main Street, Springfield, Oregon 97477, <http://www.lrapa.org>.

(NN)(i) City of Philadelphia, Department of Public Health, Air Management Services, 321 University Avenue, Philadelphia, Pennsylvania 19104.

(ii) Commonwealth of Pennsylvania, Department of Environmental Protection, Bureau of Air Quality Control, P.O. Box 8468, 400 Market Street, Harrisburg, Pennsylvania 17105.

(iii) Allegheny County Health Department, Bureau of Environmental Quality, Division of Air Quality, 301 39th Street, Pittsburgh, Pennsylvania 15201.

(OO) State of Rhode Island, Division of Air and Hazardous Materials, Department of Environmental Management, 291 Promenade Street, Providence, RI 02908.

(PP) State of South Carolina: South Carolina Department of Health and Environmental Control, 2600 Bull Street, Columbia, South Carolina 29201.

(QQ) State of South Dakota, Air Quality Program, Department of Environment and Natural Resources, Joe Foss Building, 523 East Capitol, Pierre, SD 57501-3181.

NOTE: For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(RR) State of Tennessee: Tennessee Department of Environment and Conservation, Division of Air Pollution Control, 401 Church Street, 9th Floor, L&C Annex, Nashville, Tennessee 37243-1531.

Knox County Air Quality Management—Department of Public Health, 140 Dameron Avenue, Knoxville, TN 37917.

Air Pollution Control Bureau, Metropolitan Health Department, 311 23rd Avenue North, Nashville, TN 37203.

Chattanooga-Hamilton County Air Pollution Control Bureau, 6125 Preservation Drive, Chattanooga, TN 37416.

Memphis-Shelby County Health Department—Air Pollution Control Program, 814 Jefferson Avenue, Memphis, TN 38105.

(SS) State of Texas, Texas Air Control Board, 6330 Highway 290 East, Austin, TX 78723.

(TT) State of Utah, Division of Air Quality, Department of Environmental Quality, P.O. Box 144820, Salt Lake City, UT 84114-4820.

NOTE: For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(UU) State of Vermont, Air Pollution Control Division, Agency of Natural Resources, Building 3 South, 103 South Main Street, Waterbury, VT 05676.

(VV) Commonwealth of Virginia, Department of Environmental Quality, 629 East Main Street,

Richmond, Virginia 23219.

(WW) *State of Washington*. (i) Washington State Department of Ecology (Ecology), P.O. Box 47600, Olympia, WA 98504-7600, <http://www.ecy.wa.gov/>

(ii) Benton Clean Air Authority (BCAA), 650 George Washington Way, Richland, WA 99352-4289, <http://www.bcaa.net/>

(iii) Northwest Air Pollution Control Authority (NWAPA), 1600 South Second St., Mount Vernon, WA 98273-5202, <http://www.nwair.org/>

(iv) Olympic Regional Clean Air Agency (ORCAA), 909 Sleater-Kinney Road S.E., Suite 1, Lacey, WA 98503-1128, <http://www.orcaa.org/>

(v) Puget Sound Clean Air Agency (PSCAA), 110 Union Street, Suite 500, Seattle, WA 98101-2038, <http://www.pscleanair.org/>

(vi) Spokane County Air Pollution Control Authority (SCAPCA), West 1101 College, Suite 403, Spokane, WA 99201, <http://www.scapca.org/>

(vii) Southwest Clean Air Agency (SWCAA), 1308 NE. 134th St., Vancouver, WA 98685-2747, <http://www.swcleanair.org/>

(viii) Yakima Regional Clean Air Authority (YRCAA), 6 South 2nd Street, Suite 1016, Yakima, WA 98901, <http://co.yakima.wa.us/cleanair/default.htm>

(ix) The following table lists the delegation status of the New Source Performance Standards for the State of Washington. An "X" indicates the subpart has been delegated, subject to all the conditions and limitations set forth in Federal law and the letters granting delegation. Some authorities cannot be delegated and are retained by EPA. Refer to the letters granting delegation for a discussion of these retained authorities. The dates noted at the end of the table indicate the effective dates of Federal rules that have been delegated. Authority for implementing and enforcing any amendments made to these rules after these effective dates are not delegated.

#### NSPS SUBPARTS DELEGATED TO WASHINGTON AIR AGENCIES

| Subpart <sup>1</sup>                                                                                                         | Washington           |                   |                    |                    |                    |                     |                    |                    |
|------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|
|                                                                                                                              | Ecology <sup>2</sup> | BCAA <sup>3</sup> | NWAPA <sup>4</sup> | ORCAA <sup>5</sup> | PSCAA <sup>6</sup> | SCAPCA <sup>7</sup> | SWCAA <sup>8</sup> | YRCAA <sup>9</sup> |
| A General Provisions                                                                                                         | X                    | X                 | X                  | X                  | X                  | X                   | X                  | X                  |
| B Adoption and Submittal of State Plans for Designated Facilities                                                            |                      |                   |                    |                    |                    |                     |                    |                    |
| C Emission Guidelines and Compliance Times                                                                                   |                      |                   |                    |                    |                    |                     |                    |                    |
| Cb Large Municipal Waste Combustors that are Constructed on or before September 20, 1994 (Emission Guidelines and Compliance |                      |                   |                    |                    |                    |                     |                    |                    |



|                                                                                                                               |   |   |   |   |   |   |   |   |
|-------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|
| Times)                                                                                                                        |   |   |   |   |   |   |   |   |
| Cc Municipal Solid Waste Landfills (Emission Guidelines and Compliance Times)                                                 |   |   |   |   |   |   |   |   |
| Cd Sulfuric Acid Production Units (Emission Guidelines and Compliance Times)                                                  |   |   |   |   |   |   |   |   |
| Ce Hospital/Medical/Infectious Waste Incinerators (Emission Guidelines and Compliance Times)                                  |   |   |   |   |   |   |   |   |
| D Fossil-Fuel-Fired Steam Generators for which Construction is Commenced after August 17, 1971                                | X | X | X | X | X | X | X | X |
| Da Electric Utility Steam Generating Units for which Construction is Commenced after September 18, 1978                       | X | X | X | X | X | X | X | X |
| Db Industrial-Commercial-Institutional Steam Generating Units                                                                 | X | X | X | X | X | X | X | X |
| Dc Small Industrial-Commercial-Institutional Steam Generating Units                                                           | X | X | X | X | X | X | X | X |
| E Incinerators                                                                                                                | X | X | X | X | X | X | X | X |
| Ea Municipal Waste Combustors for which Construction is Commenced after December 20, 1989 and on or before September 20, 1994 | X | X | X | X | X | X | X | X |
| Eb—Large Municipal Waste Combustors                                                                                           |   | X |   | X | X | X |   |   |
| Ec—Hospital/Medical/Infectious Waste Incinerators                                                                             | X | X | X | X | X | X |   |   |
| F Portland Cement Plants                                                                                                      | X | X | X | X | X | X | X | X |
| G Nitric Acid Plants                                                                                                          | X | X | X | X | X | X | X | X |

|                                                                                                                                                                  |   |   |   |   |   |   |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|
| H Sulfuric Acid Plants                                                                                                                                           | X | X | X | X | X | X | X | X |
| I Hot Mix Asphalt Facilities                                                                                                                                     | X | X | X | X | X | X | X | X |
| J Petroleum Refineries                                                                                                                                           | X | X | X | X | X | X | X | X |
| K Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced after June 11, 1973 and prior to May 19, 1978          | X | X | X | X | X | X | X | X |
| Ka Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced after May 18, 1978 and prior to July 23, 1984         | X | X | X | X | X | X | X | X |
| Kb VOC Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 | X | X | X | X | X | X | X | X |
| L Secondary Lead Smelters                                                                                                                                        | X | X | X | X | X | X | X | X |
| M Secondary Brass and Bronze Production Plants                                                                                                                   | X | X | X | X | X | X | X | X |
| N Primary Emissions from Basic Oxygen Process Furnaces for which Construction is Commenced after June 11, 1973                                                   | X | X | X | X | X | X | X | X |
| Na Secondary Emissions from Basic Oxygen Process Steel-making Facilities for which Construction is Commenced after                                               | X | X | X | X | X | X | X | X |

|                                                                                                                   |   |   |   |   |   |   |   |   |
|-------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|
| January 20, 1983                                                                                                  |   |   |   |   |   |   |   |   |
| O Sewage Treatment Plants                                                                                         | X | X | X | X | X | X | X | X |
| P Primary Copper Smelters                                                                                         | X | X | X | X | X | X | X | X |
| Q Primary Zinc Smelters                                                                                           | X | X | X | X | X | X | X | X |
| R Primary Lead Smelters                                                                                           | X | X | X | X | X | X | X | X |
| S Primary Aluminum Reduction Plants <sup>10</sup>                                                                 | X |   |   |   |   |   |   |   |
| T Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                               | X | X | X | X | X | X | X | X |
| U Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                      | X | X | X | X | X | X | X | X |
| V Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                      | X | X | X | X | X | X | X | X |
| W Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                     | X | X | X | X | X | X | X | X |
| X Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                | X | X | X | X | X | X | X | X |
| Y Coal Preparation Plants                                                                                         | X | X | X | X | X | X | X | X |
| Z Ferroalloy Production Facilities                                                                                | X | X | X | X | X | X | X | X |
| AA Steel Plants: Electric Arc Furnaces Constructed after October 21, 1974 and on or before August 17, 1983        | X | X | X | X | X | X | X | X |
| AAa Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed after August 7, 1983 | X | X | X | X | X | X | X | X |
| BB Kraft Pulp Mills <sup>11</sup>                                                                                 | X |   |   |   |   |   |   |   |

|                                                                                |   |   |   |   |   |   |   |   |
|--------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|
| CC Glass Manufacturing Plants                                                  | X | X | X | X | X | X | X | X |
| DD Grain Elevators                                                             | X | X | X | X | X | X | X | X |
| EE Surface Coating of Metal Furniture                                          | X | X | X | X | X | X | X | X |
| GG Stationary Gas Turbines                                                     | X | X | X | X | X | X | X | X |
| HH Lime Manufacturing Plants                                                   | X | X | X | X | X | X | X | X |
| KK Lead-Acid Battery Manufacturing Plants                                      | X | X | X | X | X | X | X | X |
| LL Metallic Mineral Processing Plants                                          | X | X | X | X | X | X | X | X |
| MM Automobile and Light Duty Truck Surface Coating Operations                  | X | X | X | X | X | X | X | X |
| NN Phosphate Rock Plants                                                       | X | X | X | X | X | X | X | X |
| PP Ammonium Sulfate Manufacture                                                | X | X | X | X | X | X | X | X |
| QQ Graphic Arts Industry: Publication Rotogravure Printing                     | X | X | X | X | X | X | X | X |
| RR Pressure Sensitive Tape and Label Surface Coating Standards                 | X | X | X | X | X | X | X | X |
| SS Industrial Surface Coating: Large Appliances                                | X | X | X | X | X | X | X | X |
| TT Metal Coil Surface Coating                                                  | X | X | X | X | X | X | X | X |
| UU Asphalt Processing and Asphalt Roof Manufacture                             | X | X | X | X | X | X | X | X |
| VV Equipment Leaks of VOC in Synthetic Organic Chemical Manufacturing Industry | X | X | X | X | X | X | X | X |
| WW Beverage Can Surface Coating Industry                                       | X | X | X | X | X | X | X | X |
| XX Bulk Gasoline Terminals                                                     | X | X | X | X | X | X | X | X |
| AAA New Residential Wood Heaters                                               |   |   |   |   |   |   |   |   |

|                                                                                                       |   |   |   |   |   |   |   |   |
|-------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|
| BBB Rubber Tire Manufacturing Industry                                                                | X | X | X | X | X | X | X | X |
| DDD VOC Emissions from Polymer Manufacturing Industry                                                 | X | X | X | X | X | X | X | X |
| FFF Flexible Vinyl and Urethane Coating and Printing                                                  | X | X | X | X | X | X | X | X |
| GGG Equipment Leaks of VOC in Petroleum Refineries                                                    | X | X | X | X | X | X | X | X |
| HHH Synthetic Fiber Production Facilities                                                             | X | X | X | X | X | X | X | X |
| III VOC Emissions from Synthetic Organic Chemical Manufacturing Industry Air Oxidation Unit Processes | X | X | X | X | X | X | X | X |
| JJJ Petroleum Dry Cleaners                                                                            | X | X | X | X | X | X | X | X |
| KKK Equipment Leaks of VOC from Onshore Natural Gas Processing Plants                                 | X | X | X | X | X | X | X | X |
| LLL Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                         | X | X | X | X | X | X | X | X |
| NNN VOC Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Operations      | X | X | X | X | X | X | X | X |
| OOO Nonmetallic Mineral Processing Plants                                                             |   |   | X |   | X |   | X |   |
| PPP Wool Fiberglass Insulation Manufacturing Plants                                                   | X | X | X | X | X | X | X | X |
| QQQ VOC Emissions from Petroleum Refinery Wastewater Systems                                          | X | X | X | X | X | X | X | X |
| RRR VOCs from Synthetic Organic Chemical                                                              | X | X | X | X | X | X | X | X |

|                                                                                                                                                                                                              |   |   |   |   |   |   |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|
| Manufacturing Industry Reactor Processes                                                                                                                                                                     |   |   |   |   |   |   |   |   |
| SSS Magnetic Tape Coating Facilities                                                                                                                                                                         | X | X | X | X | X | X | X | X |
| TTT Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                                                                                       | X | X | X | X | X | X | X | X |
| UUU Calciners and Dryers in Mineral Industries                                                                                                                                                               | X | X | X | X | X | X | X | X |
| VVV Polymeric Coating of Supporting Substrates Facilities                                                                                                                                                    | X | X | X | X | X | X | X | X |
| WWW Municipal Solid Waste Landfills                                                                                                                                                                          | X | X | X | X | X | X | X | X |
| AAAA Small Municipal Waste Combustion Units for which Construction is Commenced after August 30, 1999 or for which Modification or Reconstruction is Commenced after June 6, 2001                            | X | X |   | X | X | X |   | X |
| BBBB Small Municipal Waste Combustion Units Constructed on or before August 30, 1999 (Emission Guidelines and Compliance Times)                                                                              |   |   |   |   |   |   |   |   |
| CCCC Commercial and Industrial Solid Waste Incineration Units for which Construction is Commenced after November, 30, 1999 or for which Modification or Reconstruction is Commenced on or after June 1, 2001 | X | X |   | X | X | X |   | X |
| DDDD Commercial and Industrial Solid Waste Incineration                                                                                                                                                      |   |   |   |   |   |   |   |   |

|                                                                                                                               |  |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| Units that<br>Commenced<br>Construction on or<br>before November 30,<br>1999 (Emission<br>Guidelines and<br>Compliance Times) |  |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|

<sup>1</sup> Any authority within any subpart of this part that is not delegable, is not delegated. Please refer to Attachment B to the delegation letters for a listing of the NSPS authorities excluded from delegation.

<sup>2</sup> Washington State Department of Ecology, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

<sup>3</sup> Benton Clean Air Authority, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

<sup>4</sup> Northwest Air Pollution Authority, for all NSPS delegated, as in effect on July 1, 2000.

<sup>5</sup> Olympic Regional Clean Air Authority, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

<sup>6</sup> Puget Sound Clean Air Authority, for all NSPS delegated, as in effect on July 1, 2002.

<sup>7</sup> Spokane County Air Pollution Control Authority, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

<sup>8</sup> Southwest Clean Air Agency, for all NSPS delegated, as in effect on July 1, 2000.

<sup>9</sup> Yakima Regional Clean Air Authority, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

<sup>10</sup> Subpart S of this part is not delegated to local agencies in Washington because the Washington State Department of Ecology retains sole authority to regulate Primary Aluminum Plants, pursuant to Washington Administrative Code 173-415-010.

<sup>11</sup> Subpart BB of this part is not delegated to local agencies in Washington because the Washington State Department of Ecology retains sole authority to regulate Kraft and Sulfite Pulping Mills, pursuant to Washington State Administrative Code 173-405-012 and 173-410-012.

(XX) State of West Virginia, Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE., Charleston, West Virginia 25304.

(YY) State of Wisconsin: Wisconsin Department of Natural Resources, 101 South Webster St., P.O. Box 7921, Madison, Wisconsin 53707-7921.

(ZZ) State of Wyoming, Department of Environmental Quality, Air Quality Division, Herschler Building, 122 West 25th Street, Cheyenne, WY 82002.

NOTE: For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(AAA) Territory of Guam: Guam Environmental Protection Agency, P.O. Box 22439 GMF, Barrigada, Guam 96921.

NOTE: For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(BBB) Commonwealth of Puerto Rico: Commonwealth of Puerto Rico Environmental Quality Board, P.O. Box 11488, Santurce, PR 00910, Attention: Air Quality Area Director (see table under § 60.4(b) (FF)(1)).

(CCC) U.S. Virgin Islands: U.S. Virgin Islands Department of Conservation and Cultural Affairs, P.O. Box 578, Charlotte Amalie, St. Thomas, VI 00801.

(DDD) American Samoa: American Samoa Environmental Protection Agency, P.O. Box PPA, Pago Pago, American Samoa 96799.

NOTE: For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(EEE) Commonwealth of the Northern Mariana Islands: CNMI Division of Environmental Quality, P.O. Box 501304, Saipan, MP 96950.

NOTE: For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(c) The following is a table indicating the delegation status of New Source Performance Standards for Region VIII.

#### DELEGATION STATUS OF NEW SOURCE PERFORMANCE STANDARDS

[(NSPS) for Region VIII]

| Subpart                                                         | CO  | MT  | ND  | SD  | UT  | WY  |
|-----------------------------------------------------------------|-----|-----|-----|-----|-----|-----|
| A—General Provisions                                            | (*) | (*) | (*) | (*) | (*) | (*) |
| D—Fossil Fuel Fired Steam Generators                            | (*) | (*) | (*) | (*) | (*) | (*) |
| Da—Electric Utility Steam Generators                            | (*) | (*) | (*) | (*) | (*) | (*) |
| Db—Industrial-Commercial—Institutional Steam Generators         | (*) | (*) | (*) | (*) | (*) | (*) |
| Dc—Industrial-Commercial-Institutional Steam Generators         | (*) | (*) | (*) | (*) | (*) | (*) |
| E—Incinerators                                                  | (*) | (*) | (*) | (*) | (*) | (*) |
| Ea—Municipal Waste Combustors                                   | (*) | (*) | (*) | (*) | (*) | (*) |
| Eb—Large Municipal Waste Combustors                             |     | (*) |     | (*) | (*) | (*) |
| Ec—Hospital/Medical/Infectious Waste Incinerators               | (*) | (*) | (*) | (*) | (*) | (*) |
| F—Portland Cement Plants                                        | (*) | (*) | (*) | (*) | (*) | (*) |
| G—Nitric Acid Plants                                            | (*) | (*) | (*) |     | (*) | (*) |
| H—Sulfuric Acid Plants                                          | (*) | (*) | (*) |     | (*) | (*) |
| I—Asphalt Concrete Plants                                       | (*) | (*) | (*) | (*) | (*) | (*) |
| J—Petroleum Refineries                                          | (*) | (*) | (*) |     | (*) | (*) |
| K—Petroleum Storage Vessels (after 6/11/73 & prior to 5/19/78)  | (*) | (*) | (*) | (*) | (*) | (*) |
| Ka—Petroleum Storage Vessels (after 5/18/78 & prior to 7/23/84) | (*) | (*) | (*) | (*) | (*) | (*) |
| Kb—Petroleum Storage Vessels (after 7/23/84)                    | (*) | (*) | (*) | (*) | (*) | (*) |
| L—Secondary Lead Smelters                                       | (*) | (*) |     |     | (*) | (*) |



|                                                                                                           |     |     |     |     |     |     |
|-----------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|
| M—Secondary Brass and Bronze Production                                                                   |     |     |     |     |     |     |
| Plants                                                                                                    | (*) | (*) |     |     | (*) | (*) |
| N—Primary Emissions from Basic Oxygen Process Furnaces (after 6/11/73)                                    | (*) | (*) |     |     | (*) | (*) |
| Na—Secondary Emissions from Basic Oxygen Process Furnaces (after 1/20/83)                                 | (*) | (*) |     |     | (*) | (*) |
| O—Sewage Treatment Plants                                                                                 | (*) | (*) | (*) | (*) | (*) | (*) |
| P—Primary Copper Smelters                                                                                 | (*) | (*) |     |     | (*) | (*) |
| Q—Primary Zinc Smelters                                                                                   | (*) | (*) |     |     | (*) | (*) |
| R—Primary Lead Smelters                                                                                   | (*) | (*) |     |     | (*) | (*) |
| S—Primary Aluminum Reduction Plants                                                                       | (*) | (*) |     |     | (*) | (*) |
| T—Phosphate Fertilizer Industry: Wet Process Phosphoric Plants                                            | (*) | (*) | (*) |     | (*) | (*) |
| U—Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                              | (*) | (*) | (*) |     | (*) | (*) |
| V—Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                              | (*) | (*) | (*) |     | (*) | (*) |
| W—Phosphate Fertilizer Industry: Triple Superphosphate Plants                                             | (*) | (*) | (*) |     | (*) | (*) |
| X—Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                        | (*) | (*) | (*) |     | (*) | (*) |
| Y—Coal Preparation Plants                                                                                 | (*) | (*) | (*) | (*) | (*) | (*) |
| Z—Ferroalloy Production Facilities                                                                        | (*) | (*) | (*) |     | (*) | (*) |
| AA—Steel Plants: Electric Arc Furnaces (10/21/74-8/17/83)                                                 | (*) | (*) | (*) |     | (*) | (*) |
| AAa—Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels (after 8/7/83)           | (*) | (*) | (*) |     | (*) | (*) |
| BB—Kraft Pulp Mills                                                                                       | (*) | (*) |     |     | (*) | (*) |
| CC—Glass Manufacturing Plants                                                                             | (*) | (*) | (*) |     | (*) | (*) |
| DD—Grain Elevator                                                                                         | (*) | (*) | (*) | (*) | (*) | (*) |
| EE—Surface Coating of Metal Furniture                                                                     | (*) | (*) | (*) |     | (*) | (*) |
| GG—Stationary Gas Turbines                                                                                | (*) | (*) | (*) | (*) | (*) | (*) |
| HH—Lime Manufacturing Plants                                                                              | (*) | (*) | (*) | (*) | (*) | (*) |
| KK—Lead-Acid Battery Manufacturing Plants                                                                 | (*) | (*) | (*) |     | (*) | (*) |
| LL—Metallic Mineral Processing Plants                                                                     | (*) | (*) | (*) | (*) | (*) | (*) |
| MM—Automobile & Light Duty Truck Surface Coating Operations                                               | (*) | (*) | (*) |     | (*) | (*) |
| NN—Phosphate Rock Plants                                                                                  | (*) | (*) | (*) |     | (*) | (*) |
| PP—Ammonium Sulfate Manufacturing                                                                         | (*) | (*) | (*) |     | (*) | (*) |
| QQ—Graphic Arts Industry: Publication Rotogravure Printing                                                | (*) | (*) | (*) | (*) | (*) | (*) |
| RR—Pressure Sensitive Tape & Label Surface Coating                                                        | (*) | (*) | (*) | (*) | (*) | (*) |
| SS—Industrial Surface Coating: Large Applications                                                         | (*) | (*) | (*) |     | (*) | (*) |
| TT—Metal Coil Surface Coating                                                                             | (*) | (*) | (*) |     | (*) | (*) |
| UU—Asphalt Processing & Asphalt Roofing Manufacture                                                       | (*) | (*) | (*) |     | (*) | (*) |
| VV—Synthetic Organic Chemicals Manufacturing: Equipment Leaks of VOC                                      | (*) | (*) | (*) | (*) | (*) | (*) |
| WW—Beverage Can Surface Coating Industry                                                                  | (*) | (*) | (*) |     | (*) | (*) |
| XX—Bulk Gasoline Terminals                                                                                | (*) | (*) | (*) | (*) | (*) | (*) |
| AAA—Residential Wood Heaters                                                                              | (*) | (*) | (*) | (*) | (*) | (*) |
| BBB—Rubber Tires                                                                                          | (*) | (*) | (*) |     | (*) | (*) |
| DDD—VOC Emissions from Polymer Manufacturing Industry                                                     | (*) | (*) | (*) |     | (*) | (*) |
| FFF—Flexible Vinyl & Urethane Coating & Printing                                                          | (*) | (*) | (*) |     | (*) | (*) |
| GGG—Equipment Leaks of VOC in Petroleum Refineries                                                        | (*) | (*) | (*) |     | (*) | (*) |
| HHH—Synthetic Fiber Production                                                                            | (*) | (*) | (*) |     | (*) | (*) |
| III—VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry Air Oxidation Unit Processes |     | (*) | (*) |     | (*) | (*) |

|                                                                                                                                                                                          |     |     |     |     |     |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|
| JJJ—Petroleum Dry Cleaners                                                                                                                                                               | (*) | (*) | (*) | (*) | (*) | (*) |
| KKK—Equipment Leaks of VOC from Onshore Natural Gas Processing Plants                                                                                                                    | (*) | (*) | (*) |     | (*) | (*) |
| LLL—Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                                                            | (*) | (*) | (*) |     | (*) | (*) |
| NNN—VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry Distillation Operations                                                                                     | (*) | (*) | (*) | (*) | (*) | (*) |
| OOO—Nonmetallic Mineral Processing Plants                                                                                                                                                | (*) | (*) | (*) | (*) | (*) | (*) |
| PPP—Wool Fiberglass Insulation Manufacturing Plants                                                                                                                                      | (*) | (*) | (*) |     | (*) | (*) |
| QQQ—VOC Emissions from Petroleum Refinery Wastewater Systems                                                                                                                             | (*) | (*) | (*) |     | (*) | (*) |
| RRR—VOC Emissions from Synthetic Organic Chemistry Manufacturing Industry (SOCMI) Reactor Processes                                                                                      | (*) | (*) | (*) | (*) | (*) | (*) |
| SSS—Magnetic Tape Industry                                                                                                                                                               | (*) | (*) | (*) | (*) | (*) | (*) |
| TTT—Plastic Parts for Business Machine Coatings                                                                                                                                          | (*) | (*) | (*) |     | (*) | (*) |
| UUU—Calciners and Dryers in Mineral Industries                                                                                                                                           | (*) | (*) | (*) | (*) | (*) | (*) |
| VVV—Polymeric Coating of Supporting Substrates                                                                                                                                           | (*) | (*) | (*) |     | (*) | (*) |
| WWW—Municipal Solid Waste Landfills                                                                                                                                                      | (*) | (*) | (*) | (*) | (*) | (*) |
| AAAA-Small Municipal Waste Combustors                                                                                                                                                    |     | (*) | (*) |     | (*) | (*) |
| CCCC-Commercial and Industrial Solid Waste Incineration Units                                                                                                                            |     | (*) | (*) |     | (*) | (*) |
| EEEE—Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced On or After June 16, 2006 |     |     |     |     |     | (*) |

(\*) Indicates approval of State regulation.

(d) The following tables list the specific part 60 standards that have been delegated unchanged to the air pollution control agencies in Region IX. The (X) symbol is used to indicate each standard that has been delegated. The following provisions of this subpart are not delegated: §§ 60.4(b), 60.8(b), 60.9, 60.11(b), 60.11(e), 60.13(a), 60.13(d)(2), 60.13(g), 60.13(i).

(1) *Arizona*. The following table identifies delegations for Arizona:

#### DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR ARIZONA

|    | Subpart                                                                                                | Air Pollution Control Agency |                 |             |              |
|----|--------------------------------------------------------------------------------------------------------|------------------------------|-----------------|-------------|--------------|
|    |                                                                                                        | Arizona DEQ                  | Maricopa County | Pima County | Pinal County |
| A  | General Provisions                                                                                     | X                            | X               | X           | X            |
| D  | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971                                   | X                            | X               | X           | X            |
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978                           | X                            | X               | X           | X            |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                             | X                            | X               | X           | X            |
| Dc | Small Industrial Steam Generating Units                                                                | X                            | X               | X           | X            |
| E  | Incinerators                                                                                           | X                            | X               | X           | X            |
| Ea | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994     | X                            | X               | X           | X            |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                        | X                            | X               | X           |              |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996 | X                            | X               | X           |              |
| F  | Portland Cement Plants                                                                                 | X                            | X               | X           | X            |

|     |                                                                                                                                                                            |   |   |   |   |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| G   | Nitric Acid Plants                                                                                                                                                         | X | X | X | X |
| H   | Sulfuric Acid Plant                                                                                                                                                        | X | X | X | X |
| I   | Hot Mix Asphalt Facilities                                                                                                                                                 | X | X | X | X |
| J   | Petroleum Refineries                                                                                                                                                       | X | X | X | X |
| Ja  | Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007                                                                  |   |   |   |   |
| K   | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978                     | X | X | X | X |
| Ka  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984                     | X | X | X | X |
| Kb  | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 | X | X | X | X |
| L   | Secondary Lead Smelters                                                                                                                                                    | X | X | X | X |
| M   | Secondary Brass and Bronze Production Plants                                                                                                                               | X | X | X | X |
| N   | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                                                               | X | X | X | X |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983                                            | X | X | X | X |
| O   | Sewage Treatment Plants                                                                                                                                                    | X | X | X | X |
| P   | Primary Copper Smelters                                                                                                                                                    | X | X | X | X |
| Q   | Primary Zinc Smelters                                                                                                                                                      | X | X | X | X |
| R   | Primary Lead Smelters                                                                                                                                                      | X | X | X | X |
| S   | Primary Aluminum Reduction Plants                                                                                                                                          | X | X | X | X |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                                                                          | X | X | X | X |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                                                                 | X | X | X | X |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                                                                 | X | X | X | X |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                                                                | X | X | X | X |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                                                           | X | X | X | X |
| Y   | Coal Preparation Plants                                                                                                                                                    | X | X | X | X |
| Z   | Ferroalloy Production Facilities                                                                                                                                           | X | X | X | X |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                                                                    | X | X | X | X |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                                                              | X | X | X | X |
| BB  | Kraft Pulp Mills                                                                                                                                                           | X | X | X | X |
| CC  | Glass Manufacturing Plants                                                                                                                                                 | X | X | X | X |
| DD  | Grain Elevators                                                                                                                                                            | X | X | X | X |
| EE  | Surface Coating of Metal Furniture                                                                                                                                         | X | X | X | X |
| FF  | (Reserved)                                                                                                                                                                 |   |   |   |   |
| GG  | Stationary Gas Turbines                                                                                                                                                    | X | X | X | X |

|      |                                                                                                                                                                           |   |   |   |   |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| HH   | Lime Manufacturing Plants                                                                                                                                                 | X | X | X | X |
| KK   | Lead-Acid Battery Manufacturing Plants                                                                                                                                    | X | X | X | X |
| LL   | Metallic Mineral Processing Plants                                                                                                                                        | X | X | X | X |
| MM   | Automobile and Light Duty Trucks Surface Coating Operations                                                                                                               | X | X | X | X |
| NN   | Phosphate Rock Plants                                                                                                                                                     | X | X | X | X |
| PP   | Ammonium Sulfate Manufacture                                                                                                                                              | X | X | X | X |
| QQ   | Graphic Arts Industry: Publication Rotogravure Printing                                                                                                                   | X | X | X | X |
| RR   | Pressure Sensitive Tape and Label Surface Coating Operations                                                                                                              | X | X | X | X |
| SS   | Industrial Surface Coating: Large Appliances                                                                                                                              | X | X | X | X |
| TT   | Metal Coil Surface Coating                                                                                                                                                | X | X | X | X |
| UU   | Asphalt Processing and Asphalt Roofing Manufacture                                                                                                                        | X | X | X | X |
| VV   | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                                                          | X | X | X | X |
| VVa  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 | X |   |   |   |
| WW   | Beverage Can Surface Coating Industry                                                                                                                                     | X | X | X | X |
| XX   | Bulk Gasoline Terminals                                                                                                                                                   | X | X | X | X |
| AAA  | New Residential Wool Heaters                                                                                                                                              | X | X | X | X |
| BBB  | Rubber Tire Manufacturing Industry                                                                                                                                        | X | X | X | X |
| CCC  | (Reserved)                                                                                                                                                                |   |   |   |   |
| DDD  | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                                                        | X | X | X | X |
| EEE  | (Reserved)                                                                                                                                                                |   |   |   |   |
| FFF  | Flexible Vinyl and Urethane Coating and Printing                                                                                                                          | X | X | X | X |
| GGG  | Equipment Leaks of VOC in Petroleum Refineries                                                                                                                            | X | X | X | X |
| GGGa | Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006                                   | X |   |   |   |
| HHH  | Synthetic Fiber Production Facilities                                                                                                                                     | X | X | X | X |
| III  | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes                                 | X | X | X | X |
| JJJ  | Petroleum Dry Cleaners                                                                                                                                                    | X | X | X | X |
| KKK  | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                                                         | X | X | X | X |
| LLL  | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                                                 | X | X | X | X |
| MMM  | (Reserved)                                                                                                                                                                |   |   |   |   |
| NNN  | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations                                          | X | X | X | X |
| OOO  | Nonmetallic Mineral Processing Plants                                                                                                                                     | X | X | X | X |
| PPP  | Wool Fiberglass Insulation Manufacturing Plants                                                                                                                           | X | X | X | X |
| QQQ  | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                                                  | X | X | X | X |
|      |                                                                                                                                                                           |   |   |   |   |

|      |                                                                                                                                                                                                        |   |   |   |   |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| RRR  | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                                                                                   | X | X |   |   |
| SSS  | Magnetic Tape Coating Facilities                                                                                                                                                                       | X | X | X | X |
| TTT  | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                                                                                     | X | X | X | X |
| UUU  | Calciners and Dryers in Mineral Industries                                                                                                                                                             | X | X | X |   |
| VVV  | Polymeric Coating of Supporting Substrates Facilities                                                                                                                                                  | X | X | X | X |
| WWW  | Municipal Solid Waste Landfills                                                                                                                                                                        | X | X | X |   |
| AAAA | Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001                           | X | X | X |   |
| CCCC | Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001 | X | X | X |   |
| EEEE | Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006                    | X | X |   |   |
| IIII | Stationary Compression Ignition Internal Combustion Engines                                                                                                                                            | X |   |   |   |
| JJJJ | Stationary Spark Ignition Internal Combustion Engines                                                                                                                                                  |   |   |   |   |
| KKKK | Stationary Combustion Turbines                                                                                                                                                                         | X |   |   |   |
| GGGG | (Reserved)                                                                                                                                                                                             |   |   |   |   |

(2) *California*. The following tables identify delegations for each of the local air pollution control agencies of California.

(i) Delegations for Amador County Air Pollution Control District, Antelope Valley Air Pollution Control District, Bay Area Air Quality Management District, and Butte County Air Pollution Control District are shown in the following table:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR AMADOR COUNTY APCD, ANTELOPE VALLEY APCD, BAY AREA AQMD, AND BUTTE COUNTY AQMD**

|    | Subpart                                                                      | Air pollution control agency |                      |               |                   |
|----|------------------------------------------------------------------------------|------------------------------|----------------------|---------------|-------------------|
|    |                                                                              | Amador County APCD           | Antelope Valley APCD | Bay Area AQMD | Butte County APCD |
| A  | General Provisions                                                           |                              |                      |               |                   |
| D  | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971         |                              |                      | X             |                   |
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978 |                              |                      | X             |                   |
| Db | Industrial-Commercial-Institutional Steam Generating Units                   |                              |                      | X             |                   |
| Dc | Small Industrial Steam Generating Units                                      |                              |                      | X             |                   |
| E  | Incinerators                                                                 |                              |                      | X             |                   |

|    |                                                                                                                                                                            |  |  |   |  |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---|--|
| Ea | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994                                                                         |  |  | X |  |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                                                                                            |  |  |   |  |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996                                                                     |  |  |   |  |
| F  | Portland Cement Plants                                                                                                                                                     |  |  | X |  |
| G  | Nitric Acid Plants                                                                                                                                                         |  |  | X |  |
| H  | Sulfuric Acid Plants                                                                                                                                                       |  |  | X |  |
| I  | Hot Mix Asphalt Facilities                                                                                                                                                 |  |  | X |  |
| J  | Petroleum Refineries                                                                                                                                                       |  |  | X |  |
| K  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978                     |  |  | X |  |
| Ka | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984                     |  |  | X |  |
| Kb | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 |  |  | X |  |
| L  | Secondary Lead Smelters                                                                                                                                                    |  |  | X |  |
| M  | Secondary Brass and Bronze Production Plants                                                                                                                               |  |  | X |  |
| N  | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                                                               |  |  | X |  |
| Na | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983                                            |  |  | X |  |
| O  | Sewage Treatment Plants                                                                                                                                                    |  |  | X |  |
| P  | Primary Copper Smelters                                                                                                                                                    |  |  | X |  |
| Q  | Primary Zinc Smelters                                                                                                                                                      |  |  | X |  |
| R  | Primary Lead Smelters                                                                                                                                                      |  |  | X |  |
| S  | Primary Aluminum Reduction Plants                                                                                                                                          |  |  | X |  |
| T  | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                                                                          |  |  |   |  |
| U  | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                                                                 |  |  | X |  |
| V  | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                                                                 |  |  | X |  |
| W  | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                                                                |  |  | X |  |
| X  | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                                                           |  |  | X |  |
| Y  | Coal Preparation Plants                                                                                                                                                    |  |  | X |  |
| Z  | Ferroalloy Production Facilities                                                                                                                                           |  |  | X |  |

|     |                                                                                                                                           |  |  |   |  |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------|--|--|---|--|
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                                   |  |  | X |  |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                             |  |  | X |  |
| BB  | Kraft pulp Mills                                                                                                                          |  |  | X |  |
| CC  | Glass Manufacturing Plants                                                                                                                |  |  | X |  |
| DD  | Grain Elevators                                                                                                                           |  |  | X |  |
| EE  | Surface Coating of Metal Furniture                                                                                                        |  |  | X |  |
| FF  | (Reserved)                                                                                                                                |  |  |   |  |
| GG  | Stationary Gas Turbines                                                                                                                   |  |  | X |  |
| HH  | Lime Manufacturing Plants                                                                                                                 |  |  | X |  |
| KK  | Lead-Acid Battery Manufacturing Plants                                                                                                    |  |  | X |  |
| LL  | Metallic Mineral Processing Plants                                                                                                        |  |  | X |  |
| MM  | Automobile and Light Duty Trucks Surface Coating Operations                                                                               |  |  | X |  |
| NN  | Phosphate Rock Plants                                                                                                                     |  |  | X |  |
| PP  | Ammonium Sulfate Manufacture                                                                                                              |  |  | X |  |
| QQ  | Graphic Arts Industry: Publication Rotogravure Printing                                                                                   |  |  | X |  |
| RR  | Pressure Sensitive Tape and Label Surface Coating Operations                                                                              |  |  | X |  |
| SS  | Industrial Surface Coating: Large Appliances                                                                                              |  |  | X |  |
| TT  | Metal Coil Surface Coating                                                                                                                |  |  | X |  |
| UU  | Asphalt Processing and Asphalt Roofing Manufacture                                                                                        |  |  | X |  |
| VV  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                          |  |  | X |  |
| WW  | Beverage Can Surface Coating Industry                                                                                                     |  |  | X |  |
| XX  | Bulk Gasoline Terminals                                                                                                                   |  |  |   |  |
| AAA | New Residential Wool Heaters                                                                                                              |  |  | X |  |
| BBB | Rubber Tire Manufacturing Industry                                                                                                        |  |  | X |  |
| CCC | (Reserved)                                                                                                                                |  |  |   |  |
| DDD | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                        |  |  | X |  |
| EEE | (Reserved)                                                                                                                                |  |  |   |  |
| FFF | Flexible Vinyl and Urethane Coating and Printing                                                                                          |  |  | X |  |
| GGG | Equipment Leaks of VOC in Petroleum Refineries                                                                                            |  |  | X |  |
| HHH | Synthetic Fiber Production Facilities                                                                                                     |  |  | X |  |
| III | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes |  |  |   |  |
| JJJ | Petroleum Dry Cleaners                                                                                                                    |  |  | X |  |
| KKK | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                         |  |  | X |  |
| LLL | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                 |  |  |   |  |
| MMM | (Reserved)                                                                                                                                |  |  |   |  |
|     |                                                                                                                                           |  |  |   |  |

|     |                                                                                                                                  |  |  |   |  |
|-----|----------------------------------------------------------------------------------------------------------------------------------|--|--|---|--|
| NNN | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations |  |  | X |  |
| OOO | Nonmetallic Mineral Processing Plants                                                                                            |  |  | X |  |
| PPP | Wool Fiberglass Insulation Manufacturing Plants                                                                                  |  |  | X |  |
| QQQ | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                         |  |  |   |  |
| RRR | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes             |  |  |   |  |
| SSS | Magnetic Tape Coating Facilities                                                                                                 |  |  | X |  |
| TTT | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                               |  |  | X |  |
| UUU | Calciners and Dryers in Mineral Industries                                                                                       |  |  | X |  |
| VVV | Polymeric Coating of Supporting Substrates Facilities                                                                            |  |  | X |  |
| WWW | Municipal Solid Waste Landfills                                                                                                  |  |  |   |  |

(ii) [Reserved]

(iii) Delegations for Glenn County Air Pollution Control District, Great Basin Unified Air Pollution Control District, Imperial County Air Pollution Control District, and Kern County Air Pollution Control District are shown in the following table:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR GLENN COUNTY APCD, GREAT BASIN UNIFIED APCD, IMPERIAL COUNTY APCD, AND KERN COUNTY APCD**

|    | Subpart                                                                                                | Air pollution control agency |                          |                      |                  |
|----|--------------------------------------------------------------------------------------------------------|------------------------------|--------------------------|----------------------|------------------|
|    |                                                                                                        | Glenn County APCD            | Great Basin Unified APCD | Imperial County APCD | Kern County APCD |
| A  | General Provisions                                                                                     |                              | X                        |                      | X                |
| D  | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971                                   |                              | X                        |                      | X                |
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978                           |                              | X                        |                      | X                |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                             |                              | X                        |                      | X                |
| Dc | Small Industrial Steam Generating Units                                                                |                              | X                        |                      | X                |
| E  | Incinerators                                                                                           |                              | X                        |                      | X                |
| Ea | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994     |                              | X                        |                      |                  |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                        |                              |                          |                      |                  |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996 |                              |                          |                      |                  |
| F  | Portland Cement Plants                                                                                 |                              | X                        |                      | X                |
| G  | Nitric Acid Plants                                                                                     |                              | X                        |                      | X                |



|     |                                                                                                                                                                            |  |   |  |   |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|--|---|
| H   | Sulfuric Acid Plants                                                                                                                                                       |  | X |  |   |
| I   | Hot Mix Asphalt Facilities                                                                                                                                                 |  | X |  | X |
| J   | Petroleum Refineries                                                                                                                                                       |  | X |  | X |
| K   | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978                     |  | X |  | X |
| Ka  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984                     |  | X |  | X |
| Kb  | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 |  | X |  | X |
| L   | Secondary Lead Smelters                                                                                                                                                    |  | X |  | X |
| M   | Secondary Brass and Bronze Production Plants                                                                                                                               |  | X |  | X |
| N   | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                                                               |  | X |  | X |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983                                            |  | X |  | X |
| O   | Sewage Treatment Plants                                                                                                                                                    |  | X |  | X |
| P   | Primary Copper Smelters                                                                                                                                                    |  | X |  | X |
| Q   | Primary Zinc Smelters                                                                                                                                                      |  | X |  | X |
| R   | Primary Lead Smelters                                                                                                                                                      |  | X |  | X |
| S   | Primary Aluminum Reduction Plants                                                                                                                                          |  | X |  | X |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                                                                          |  | X |  | X |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                                                                 |  | X |  | X |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                                                                 |  | X |  | X |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                                                                |  | X |  | X |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                                                           |  | X |  | X |
| Y   | Coal Preparation Plants                                                                                                                                                    |  | X |  | X |
| Z   | Ferroalloy Production Facilities                                                                                                                                           |  | X |  | X |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                                                                    |  | X |  | X |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                                                              |  | X |  | X |
| BB  | Kraft pulp Mills                                                                                                                                                           |  | X |  | X |
| CC  | Glass Manufacturing Plants                                                                                                                                                 |  | X |  | X |
| DD  | Grain Elevators                                                                                                                                                            |  | X |  | X |
| EE  | Surface Coating of Metal Furniture                                                                                                                                         |  | X |  | X |

|     |                                                                                                                                           |  |   |  |   |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------|--|---|--|---|
| FF  | (Reserved)                                                                                                                                |  |   |  |   |
| GG  | Stationary Gas Turbines                                                                                                                   |  | X |  | X |
| HH  | Lime Manufacturing Plants                                                                                                                 |  | X |  | X |
| KK  | Lead-Acid Battery Manufacturing Plants                                                                                                    |  | X |  | X |
| LL  | Metallic Mineral Processing Plants                                                                                                        |  | X |  | X |
| MM  | Automobile and Light Duty Trucks Surface Coating Operations                                                                               |  | X |  | X |
| NN  | Phosphate Rock Plants                                                                                                                     |  | X |  | X |
| PP  | Ammonium Sulfate Manufacture                                                                                                              |  | X |  | X |
| QQ  | Graphic Arts Industry: Publication Rotogravure Printing                                                                                   |  | X |  | X |
| RR  | Pressure Sensitive Tape and Label Surface Coating Operations                                                                              |  | X |  | X |
| SS  | Industrial Surface Coating: Large Appliances                                                                                              |  | X |  | X |
| TT  | Metal Coil Surface Coating                                                                                                                |  | X |  | X |
| UU  | Asphalt Processing and Asphalt Roofing Manufacture                                                                                        |  | X |  | X |
| VV  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                          |  | X |  | X |
| WW  | Beverage Can Surface Coating Industry                                                                                                     |  | X |  | X |
| XX  | Bulk Gasoline Terminals                                                                                                                   |  |   |  |   |
| AAA | New Residential Wool Heaters                                                                                                              |  | X |  | X |
| BBB | Rubber Tire Manufacturing Industry                                                                                                        |  | X |  | X |
| CCC | (Reserved)                                                                                                                                |  |   |  |   |
| DDD | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                        |  | X |  | X |
| EEE | (Reserved)                                                                                                                                |  |   |  |   |
| FFF | Flexible Vinyl and Urethane Coating and Printing                                                                                          |  | X |  | X |
| GGG | Equipment Leaks of VOC in Petroleum Refineries                                                                                            |  | X |  | X |
| HHH | Synthetic Fiber Production Facilities                                                                                                     |  | X |  | X |
| III | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes |  | X |  | X |
| JJJ | Petroleum Dry Cleaners                                                                                                                    |  | X |  | X |
| KKK | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                         |  | X |  | X |
| LLL | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                 |  |   |  | X |
| MMM | (Reserved)                                                                                                                                |  |   |  |   |
| NNN | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations          |  | X |  | X |
| OOO | Nonmetallic Mineral Processing Plants                                                                                                     |  | X |  | X |
| PPP | Wool Fiberglass Insulation Manufacturing Plants                                                                                           |  | X |  | X |
| QQQ | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                  |  | X |  | X |
| RRR | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                      |  |   |  | X |
| SSS | Magnetic Tape Coating Facilities                                                                                                          |  | X |  | X |

|     |                                                                                    |  |   |   |   |
|-----|------------------------------------------------------------------------------------|--|---|---|---|
| TTT | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines |  | X | X |   |
| UUU | Calciners and Dryers in Mineral Industries                                         |  | X |   | X |
| VVV | Polymeric Coating of Supporting Substrates Facilities                              |  | X |   | X |
| WWW | Municipal Solid Waste Landfills                                                    |  |   |   | X |

(iv) Delegations for Lake County Air Quality Management District, Lassen County Air Pollution Control District, Mariposa County Air Pollution Control District, and Mendocino County Air Pollution Control District are shown in the following table:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR LAKE COUNTY AIR QUALITY MANAGEMENT DISTRICT, LASSEN COUNTY AIR POLLUTION CONTROL DISTRICT, MARIPOSA COUNTY AIR POLLUTION CONTROL DISTRICT, AND MENDOCINO COUNTY AIR POLLUTION CONTROL DISTRICT**

|    | Subpart                                                                                                                                                | Air pollution control agency |                    |                      |                       |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------|----------------------|-----------------------|
|    |                                                                                                                                                        | Lake County AQMD             | Lassen County APCD | Mariposa County AQMD | Mendocino County AQMD |
| A  | General Provisions                                                                                                                                     | X                            |                    |                      | X                     |
| D  | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971                                                                                   | X                            |                    |                      | X                     |
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978                                                                           | X                            |                    |                      | X                     |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                                                                             | X                            |                    |                      |                       |
| Dc | Small Industrial Steam Generating Units                                                                                                                | X                            |                    |                      | X                     |
| E  | Incinerators                                                                                                                                           | X                            |                    |                      | X                     |
| Ea | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994                                                     | X                            |                    |                      | X                     |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                                                                        |                              |                    |                      |                       |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996                                                 |                              |                    |                      |                       |
| F  | Portland Cement Plants                                                                                                                                 | X                            |                    |                      | X                     |
| G  | Nitric Acid Plants                                                                                                                                     | X                            |                    |                      | X                     |
| H  | Sulfuric Acid Plants                                                                                                                                   | X                            |                    |                      | X                     |
| I  | Hot Mix Asphalt Facilities                                                                                                                             | X                            |                    |                      | X                     |
| J  | Petroleum Refineries                                                                                                                                   | X                            |                    |                      | X                     |
| K  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 | X                            |                    |                      | X                     |
| Ka | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 | X                            |                    |                      | X                     |
|    |                                                                                                                                                        |                              |                    |                      |                       |

|     |                                                                                                                                                                            |   |  |  |   |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|--|---|
| Kb  | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 | X |  |  | X |
| L   | Secondary Lead Smelters                                                                                                                                                    | X |  |  | X |
| M   | Secondary Brass and Bronze Production Plants                                                                                                                               | X |  |  | X |
| N   | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                                                               | X |  |  | X |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983                                            | X |  |  | X |
| O   | Sewage Treatment Plants                                                                                                                                                    | X |  |  | X |
| P   | Primary Copper Smelters                                                                                                                                                    | X |  |  | X |
| Q   | Primary Zinc Smelters                                                                                                                                                      | X |  |  | X |
| R   | Primary Lead Smelters                                                                                                                                                      | X |  |  | X |
| S   | Primary Aluminum Reduction Plants                                                                                                                                          | X |  |  | X |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                                                                          | X |  |  | X |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                                                                 | X |  |  | X |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                                                                 | X |  |  | X |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                                                                | X |  |  | X |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                                                           | X |  |  | X |
| Y   | Coal Preparation Plants                                                                                                                                                    | X |  |  | X |
| Z   | Ferroalloy Production Facilities                                                                                                                                           | X |  |  | X |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                                                                    | X |  |  | X |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                                                              | X |  |  | X |
| BB  | Kraft Pulp Mills                                                                                                                                                           | X |  |  | X |
| CC  | Glass Manufacturing Plants                                                                                                                                                 | X |  |  | X |
| DD  | Grain Elevators                                                                                                                                                            | X |  |  | X |
| EE  | Surface Coating of Metal Furniture                                                                                                                                         | X |  |  | X |
| FF  | (Reserved)                                                                                                                                                                 |   |  |  |   |
| GG  | Stationary Gas Turbines                                                                                                                                                    | X |  |  | X |
| HH  | Lime Manufacturing Plants                                                                                                                                                  | X |  |  | X |
| KK  | Lead-Acid Battery Manufacturing Plants                                                                                                                                     | X |  |  | X |
| LL  | Metallic Mineral Processing Plants                                                                                                                                         | X |  |  | X |
| MM  | Automobile and Light Duty Trucks Surface Coating Operations                                                                                                                | X |  |  | X |
| NN  | Phosphate Rock Plants                                                                                                                                                      | X |  |  | X |
| PP  | Ammonium Sulfate Manufacture                                                                                                                                               | X |  |  | X |

|     |                                                                                                                                           |   |  |  |   |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------|---|--|--|---|
| QQ  | Graphic Arts Industry: Publication Rotogravure Printing                                                                                   | X |  |  | X |
| RR  | Pressure Sensitive Tape and Label Surface Coating Operations                                                                              | X |  |  | X |
| SS  | Industrial Surface Coating: Large Appliances                                                                                              | X |  |  | X |
| TT  | Metal Coil Surface Coating                                                                                                                | X |  |  | X |
| UU  | Asphalt Processing and Asphalt Roofing Manufacture                                                                                        | X |  |  | X |
| VV  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                          | X |  |  | X |
| WW  | Beverage Can Surface Coating Industry                                                                                                     | X |  |  | X |
| XX  | Bulk Gasoline Terminals                                                                                                                   |   |  |  |   |
| AAA | New Residential Wool Heaters                                                                                                              | X |  |  | X |
| BBB | Rubber Tire Manufacturing Industry                                                                                                        | X |  |  | X |
| CCC | (Reserved)                                                                                                                                |   |  |  |   |
| DDD | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                        | X |  |  | X |
| EEE | (Reserved)                                                                                                                                |   |  |  |   |
| FFF | Flexible Vinyl and Urethane Coating and Printing                                                                                          | X |  |  | X |
| GGG | Equipment Leaks of VOC in Petroleum Refineries                                                                                            | X |  |  | X |
| HHH | Synthetic Fiber Production Facilities                                                                                                     | X |  |  | X |
| III | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes | X |  |  | X |
| JJJ | Petroleum Dry Cleaners                                                                                                                    | X |  |  | X |
| KKK | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                         | X |  |  | X |
| LLL | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                 | X |  |  | X |
| MMM | (Reserved)                                                                                                                                |   |  |  |   |
| NNN | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations          | X |  |  | X |
| OOO | Nonmetallic Mineral Processing Plants                                                                                                     | X |  |  | X |
| PPP | Wool Fiberglass Insulation Manufacturing Plants                                                                                           | X |  |  | X |
| QQQ | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                  | X |  |  | X |
| RRR | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                      | X |  |  |   |
| SSS | Magnetic Tape Coating Facilities                                                                                                          | X |  |  | X |
| TTT | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                        |   |  |  |   |
| UUU | Calciners and Dryers in Mineral Industries                                                                                                | X |  |  | X |
|     |                                                                                                                                           |   |  |  |   |

|     |                                                       |   |  |  |   |
|-----|-------------------------------------------------------|---|--|--|---|
| VVV | Polymeric Coating of Supporting Substrates Facilities | X |  |  | X |
| WWW | Municipal Solid Waste Landfills                       | X |  |  |   |

(v) Delegations for Modoc County Air Pollution Control District, Mojave Desert Air Quality Management District, Monterey Bay Unified Air Pollution Control District, and North Coast Unified Air Pollution Control District are shown in the following table:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR MODOC COUNTY AIR POLLUTION CONTROL DISTRICT, MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT, MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT, AND NORTH COAST UNIFIED AIR POLLUTION CONTROL DISTRICT**

|    | Subpart                                                                                                                                                | Air pollution control agency |                    |                           |                          |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------|---------------------------|--------------------------|
|    |                                                                                                                                                        | Modoc County APCD            | Mojave Desert AQMD | Monterey Bay Unified APCD | North Coast Unified AQMD |
| A  | General Provisions                                                                                                                                     | X                            |                    | X                         | X                        |
| D  | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971                                                                                   | X                            | X                  | X                         | X                        |
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978                                                                           | X                            |                    | X                         | X                        |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                                                                             | X                            |                    | X                         | X                        |
| Dc | Small Industrial Steam Generating Units                                                                                                                |                              |                    | X                         |                          |
| E  | Incinerators                                                                                                                                           | X                            | X                  | X                         | X                        |
| Ea | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994                                                     |                              |                    |                           |                          |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                                                                        |                              |                    |                           |                          |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996                                                 |                              |                    |                           |                          |
| F  | Portland Cement Plants                                                                                                                                 | X                            | X                  | X                         | X                        |
| G  | Nitric Acid Plants                                                                                                                                     | X                            | X                  | X                         | X                        |
| H  | Sulfuric Acid Plants                                                                                                                                   | X                            | X                  | X                         | X                        |
| I  | Hot Mix Asphalt Facilities                                                                                                                             | X                            | X                  | X                         | X                        |
| J  | Petroleum Refineries                                                                                                                                   | X                            | X                  | X                         | X                        |
| K  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 | X                            | X                  | X                         | X                        |
| Ka | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 | X                            |                    | X                         | X                        |
| Kb | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or                        | X                            |                    | X                         | X                        |

|     | Modification Commenced After July 23, 1984                                                                                      |   |   |   |   |
|-----|---------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| L   | Secondary Lead Smelters                                                                                                         | X | X | X | X |
| M   | Secondary Brass and Bronze Production Plants                                                                                    | X | X | X | X |
| N   | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                    | X | X | X | X |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983 | X |   | X | X |
| O   | Sewage Treatment Plants                                                                                                         | X | X | X | X |
| P   | Primary Copper Smelters                                                                                                         | X |   | X | X |
| Q   | Primary Zinc Smelters                                                                                                           | X |   | X | X |
| R   | Primary Lead Smelters                                                                                                           | X |   | X | X |
| S   | Primary Aluminum Reduction Plants                                                                                               | X |   | X | X |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                               | X | X | X | X |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                      | X | X | X | X |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                      | X | X | X | X |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                     | X | X | X | X |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                | X | X | X | X |
| Y   | Coal Preparation Plants                                                                                                         | X | X | X | X |
| Z   | Ferroalloy Production Facilities                                                                                                | X |   | X | X |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                         | X | X | X | X |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                   | X |   | X | X |
| BB  | Kraft pulp Mills                                                                                                                | X |   | X | X |
| CC  | Glass Manufacturing Plants                                                                                                      | X |   | X | X |
| DD  | Grain Elevators                                                                                                                 | X |   | X | X |
| EE  | Surface Coating of Metal Furniture                                                                                              | X |   | X | X |
| FF  | (Reserved)                                                                                                                      |   |   |   |   |
| GG  | Stationary Gas Turbines                                                                                                         | X |   | X | X |
| HH  | Lime Manufacturing Plants                                                                                                       | X |   | X | X |
| KK  | Lead-Acid Battery Manufacturing Plants                                                                                          | X |   | X | X |
| LL  | Metallic Mineral Processing Plants                                                                                              | X |   | X | X |
| MM  | Automobile and Light Duty Trucks Surface Coating Operations                                                                     | X |   | X | X |
| NN  | Phosphate Rock Plants                                                                                                           | X |   | X | X |
| PP  | Ammonium Sulfate Manufacture                                                                                                    | X |   | X | X |
| QQ  | Graphic Arts Industry: Publication Rotogravure Printing                                                                         | X |   | X | X |
|     |                                                                                                                                 |   |   |   |   |

|     |                                                                                                                                           |   |  |   |   |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------|---|--|---|---|
| RR  | Pressure Sensitive Tape and Label Surface Coating Operations                                                                              | X |  | X | X |
| SS  | Industrial Surface Coating: Large Appliances                                                                                              | X |  | X | X |
| TT  | Metal Coil Surface Coating                                                                                                                | X |  | X | X |
| UU  | Asphalt Processing and Asphalt Roofing Manufacture                                                                                        | X |  | X | X |
| VV  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                          | X |  | X | X |
| WW  | Beverage Can Surface Coating Industry                                                                                                     | X |  | X | X |
| XX  | Bulk Gasoline Terminals                                                                                                                   |   |  |   |   |
| AAA | New Residential Wool Heaters                                                                                                              | X |  | X | X |
| BBB | Rubber Tire Manufacturing Industry                                                                                                        | X |  | X | X |
| CCC | (Reserved)                                                                                                                                |   |  |   |   |
| DDD | Volatile Organic Compounds (VOC) Emissions from the Polymer manufacturing Industry                                                        | X |  | X |   |
| EEE | (Reserved)                                                                                                                                |   |  |   |   |
| FFF | Flexible Vinyl and Urethane Coating and Printing                                                                                          | X |  | X | X |
| GGG | Equipment Leaks of VOC in Petroleum Refineries                                                                                            | X |  | X | X |
| HHH | Synthetic Fiber Production Facilities                                                                                                     | X |  | X | X |
| III | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes |   |  |   |   |
| JJJ | Petroleum Dry Cleaners                                                                                                                    | X |  | X | X |
| KKK | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                         | X |  | X | X |
| LLL | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                 | X |  | X | X |
| MMM | (Reserved)                                                                                                                                |   |  |   |   |
| NNN | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations          | X |  | X |   |
| OOO | Nonmetallic Mineral Processing Plants                                                                                                     | X |  | X | X |
| PPP | Wool Fiberglass Insulation Manufacturing Plants                                                                                           | X |  | X | X |
| QQQ | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                  | X |  | X | X |
| RRR | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                      |   |  |   |   |
| SSS | Magnetic Tape Coating Facilities                                                                                                          | X |  | X | X |
| TTT | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                        | X |  | X | X |
| UUU | Calciners and Dryers in Mineral Industries                                                                                                |   |  | X |   |
| VVV | Polymeric Coating of Supporting Substrates Facilities                                                                                     |   |  | X | X |
| WWW | Municipal Solid Waste Landfills                                                                                                           |   |  |   |   |

(vi) Delegations for Northern Sierra Air Quality Management District, Northern Sonoma County Air Pollution Control District, Placer County Air Pollution Control District, and Sacramento Metropolitan Air



Quality Management District are shown in the following table:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR NORTHERN SIERRA AIR  
QUALITY MANAGEMENT DISTRICT, NORTHERN SONOMA COUNTY AIR POLLUTION CONTROL DISTRICT,  
PLACER COUNTY AIR POLLUTION CONTROL DISTRICT, AND SACRAMENTO METROPOLITAN AIR QUALITY  
MANAGEMENT DISTRICT**

|    | Subpart                                                                                                                                                                                | Air pollution control agency |                                      |                          |                                    |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------|--------------------------|------------------------------------|
|    |                                                                                                                                                                                        | Northern<br>Sierra<br>AQMD   | Northern<br>Sonoma<br>County<br>APCD | Placer<br>County<br>APCD | Sacramento<br>Metropolitan<br>AQMD |
| A  | General Provisions                                                                                                                                                                     |                              | X                                    |                          | X                                  |
| D  | Fossil-Fuel Fired Steam Generators<br>Constructed After August 17, 1971                                                                                                                |                              | X                                    |                          | X                                  |
| Da | Electric Utility Steam Generating Units<br>Constructed After September 18, 1978                                                                                                        |                              | X                                    |                          | X                                  |
| Db | Industrial-Commercial-Institutional Steam<br>Generating Units                                                                                                                          |                              |                                      |                          | X                                  |
| Dc | Small Industrial Steam Generating Units                                                                                                                                                |                              |                                      |                          | X                                  |
| E  | Incinerators                                                                                                                                                                           |                              | X                                    |                          | X                                  |
| Ea | Municipal Waste Combustors Constructed<br>After December 20, 1989 and On or Before<br>September 20, 1994                                                                               |                              |                                      |                          | X                                  |
| Eb | Municipal Waste Combustors Constructed<br>After September 20, 1994                                                                                                                     |                              |                                      |                          | X                                  |
| Ec | Hospital/Medical/Infectious Waste<br>Incinerators for Which Construction is<br>Commenced After June 20, 1996                                                                           |                              |                                      |                          | X                                  |
| F  | Portland Cement Plants                                                                                                                                                                 |                              | X                                    |                          | X                                  |
| G  | Nitric Acid Plants                                                                                                                                                                     |                              | X                                    |                          | X                                  |
| H  | Sulfuric Acid Plants                                                                                                                                                                   |                              | X                                    |                          | X                                  |
| I  | Hot Mix Asphalt Facilities                                                                                                                                                             |                              | X                                    |                          | X                                  |
| J  | Petroleum Refineries                                                                                                                                                                   |                              | X                                    |                          | X                                  |
| K  | Storage Vessels for Petroleum Liquids for<br>Which Construction, Reconstruction, or<br>Modification Commenced After June 11,<br>1973, and Prior to May 19, 1978                        |                              | X                                    |                          | X                                  |
| Ka | Storage Vessels for Petroleum Liquids for<br>Which Construction, Reconstruction, or<br>Modification Commenced After May 18,<br>1978, and Prior to July 23, 1984                        |                              | X                                    |                          | X                                  |
| Kb | Volatile Organic Liquid Storage Vessels<br>(Including Petroleum Liquid Storage<br>Vessels) for Which Construction,<br>Reconstruction, or Modification<br>Commenced After July 23, 1984 |                              |                                      |                          | X                                  |
| L  | Secondary Lead Smelters                                                                                                                                                                |                              | X                                    |                          | X                                  |
| M  | Secondary Brass and Bronze Production<br>Plants                                                                                                                                        |                              | X                                    |                          | X                                  |

|     |                                                                                                                                 |  |   |  |   |
|-----|---------------------------------------------------------------------------------------------------------------------------------|--|---|--|---|
| N   | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                    |  | X |  | X |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983 |  |   |  | X |
| O   | Sewage Treatment Plants                                                                                                         |  | X |  | X |
| P   | Primary Copper Smelters                                                                                                         |  | X |  | X |
| Q   | Primary Zinc Smelters                                                                                                           |  | X |  | X |
| R   | Primary Lead Smelters                                                                                                           |  | X |  | X |
| S   | Primary Aluminum Reduction Plants                                                                                               |  | X |  | X |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                               |  | X |  | X |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                      |  | X |  | X |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                      |  | X |  | X |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                     |  | X |  | X |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                |  | X |  | X |
| Y   | Coal Preparation Plants                                                                                                         |  | X |  | X |
| Z   | Ferroalloy Production Facilities                                                                                                |  | X |  | X |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                         |  | X |  | X |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                   |  |   |  | X |
| BB  | Kraft pulp Mills                                                                                                                |  | X |  | X |
| CC  | Glass Manufacturing Plants                                                                                                      |  | X |  | X |
| DD  | Grain Elevators                                                                                                                 |  | X |  | X |
| EE  | Surface Coating of Metal Furniture                                                                                              |  |   |  | X |
| FF  | (Reserved)                                                                                                                      |  |   |  |   |
| GG  | Stationary Gas Turbines                                                                                                         |  | X |  | X |
| HH  | Lime Manufacturing Plants                                                                                                       |  | X |  | X |
| KK  | Lead-Acid Battery Manufacturing Plants                                                                                          |  |   |  | X |
| LL  | Metallic Mineral Processing Plants                                                                                              |  |   |  | X |
| MM  | Automobile and Light Duty Trucks Surface Coating Operations                                                                     |  | X |  | X |
| NN  | Phosphate Rock Plants                                                                                                           |  |   |  | X |
| PP  | Ammonium Sulfate Manufacture                                                                                                    |  | X |  | X |
| QQ  | Graphic Arts Industry: Publication Rotogravure Printing                                                                         |  |   |  | X |
| RR  | Pressure Sensitive Tape and Label Surface Coating Operations                                                                    |  |   |  | X |
| SS  | Industrial Surface Coating: Large Appliances                                                                                    |  |   |  | X |
| TT  | Metal Coil Surface Coating                                                                                                      |  |   |  | X |

|     |                                                                                                                                           |  |  |  |   |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|---|
| UU  | Asphalt Processing and Asphalt Roofing Manufacture                                                                                        |  |  |  | X |
| VV  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                          |  |  |  | X |
| WW  | Beverage Can Surface Coating Industry                                                                                                     |  |  |  | X |
| XX  | Bulk Gasoline Terminals                                                                                                                   |  |  |  |   |
| AAA | New Residential Wool Heaters                                                                                                              |  |  |  | X |
| BBB | Rubber Tire Manufacturing Industry                                                                                                        |  |  |  | X |
| CCC | (Reserved)                                                                                                                                |  |  |  |   |
| DDD | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                        |  |  |  | X |
| EEE | (Reserved)                                                                                                                                |  |  |  |   |
| FFF | Flexible Vinyl and Urethane Coating and Printing                                                                                          |  |  |  | X |
| GGG | Equipment Leaks of VOC in Petroleum Refineries                                                                                            |  |  |  | X |
| HHH | Synthetic Fiber Production Facilities                                                                                                     |  |  |  | X |
| III | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes |  |  |  | X |
| JJJ | Petroleum Dry Cleaners                                                                                                                    |  |  |  | X |
| KKK | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                         |  |  |  | X |
| LLL | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                 |  |  |  | X |
| MMM | (Reserved)                                                                                                                                |  |  |  |   |
| NNN | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations          |  |  |  | X |
| OOO | Nonmetallic Mineral Processing Plants                                                                                                     |  |  |  | X |
| PPP | Wool Fiberglass Insulation Manufacturing Plants                                                                                           |  |  |  | X |
| QQQ | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                  |  |  |  | X |
| RRR | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                      |  |  |  | X |
| SSS | Magnetic Tape Coating Facilities                                                                                                          |  |  |  | X |
| TTT | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                        |  |  |  | X |
| UUU | Calciners and Dryers in Mineral Industries                                                                                                |  |  |  | X |
| VVV | Polymeric Coating of Supporting Substrates Facilities                                                                                     |  |  |  | X |
| WWW | Municipal Solid Waste Landfills                                                                                                           |  |  |  | X |

(vii) Delegations for San Diego County Air Pollution Control District, San Joaquin Valley Unified Air

Pollution Control District, San Luis Obispo County Air Pollution Control District, and Santa Barbara County Air Pollution Control District are shown in the following table:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT, AND SANTA BARBARA COUNTY AIR POLLUTION CONTROL DISTRICT**

|    | Subpart                                                                                                                                                                    | Air Pollution Control Agency |                                 |                             |                           |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------------------|-----------------------------|---------------------------|
|    |                                                                                                                                                                            | San Diego County APCD        | San Joaquin Valley Unified APCD | San Luis Obispo County APCD | Santa Barbara County APCD |
| A  | General Provisions                                                                                                                                                         | X                            | X                               | X                           | X                         |
| D  | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971                                                                                                       | X                            | X                               | X                           | X                         |
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978                                                                                               | X                            | X                               | X                           | X                         |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                                                                                                 | X                            | X                               | X                           | X                         |
| Dc | Small Industrial Steam Generating Units                                                                                                                                    | X                            | X                               | X                           |                           |
| E  | Incinerators                                                                                                                                                               | X                            | X                               | X                           | X                         |
| Ea | Municipal Waste Combustors Constructed After December 20, 1989, and On or Before September 20, 1994                                                                        | X                            | X                               | X                           |                           |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                                                                                            | X                            | X                               |                             |                           |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996                                                                     | X                            |                                 |                             |                           |
| F  | Portland Cement Plants                                                                                                                                                     | X                            | X                               | X                           |                           |
| G  | Nitric Acid Plants                                                                                                                                                         | X                            | X                               | X                           |                           |
| H  | Sulfuric Acid Plants                                                                                                                                                       | X                            | X                               | X                           |                           |
| I  | Hot Mix Asphalt Facilities                                                                                                                                                 | X                            | X                               | X                           | X                         |
| J  | Petroleum Refineries                                                                                                                                                       | X                            | X                               | X                           | X                         |
| Ja | Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007                                                                  |                              |                                 |                             |                           |
| K  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978                     | X                            | X                               | X                           | X                         |
| Ka | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984                     | X                            | X                               | X                           | X                         |
| Kb | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 | X                            | X                               | X                           | X                         |

|     |                                                                                                                                 |   |   |   |   |
|-----|---------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| L   | Secondary Lead Smelters                                                                                                         | X | X | X | X |
| M   | Secondary Brass and Bronze Production Plants                                                                                    | X | X | X | X |
| N   | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                    | X | X | X |   |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983 | X | X | X |   |
| O   | Sewage Treatment Plants                                                                                                         | X | X | X | X |
| P   | Primary Copper Smelters                                                                                                         | X | X | X |   |
| Q   | Primary Zinc Smelters                                                                                                           | X | X | X |   |
| R   | Primary Lead Smelters                                                                                                           | X | X | X |   |
| S   | Primary Aluminum Reduction Plants                                                                                               | X | X | X |   |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                               | X | X | X |   |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                      | X | X | X |   |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                      | X | X | X |   |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                     | X | X | X |   |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                | X | X | X |   |
| Y   | Coal Preparation Plants                                                                                                         | X | X | X |   |
| Z   | Ferroalloy Production Facilities                                                                                                | X | X | X |   |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983                        | X | X | X |   |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                   | X | X | X |   |
| BB  | Kraft pulp Mills                                                                                                                | X | X | X |   |
| CC  | Glass Manufacturing Plants                                                                                                      | X | X | X | X |
| DD  | Grain Elevators                                                                                                                 | X | X | X | X |
| EE  | Surface Coating of Metal Furniture                                                                                              | X | X | X |   |
| FF  | (Reserved)                                                                                                                      |   |   |   |   |
| GG  | Stationary Gas Turbines                                                                                                         | X | X | X | X |
| HH  | Lime Manufacturing Plants                                                                                                       | X | X | X |   |
| KK  | Lead-Acid Battery Manufacturing Plants                                                                                          | X | X | X |   |
| LL  | Metallic Mineral Processing Plants                                                                                              | X | X | X |   |
| MM  | Automobile and Light Duty Trucks Surface Coating Operations                                                                     | X | X | X |   |
| NN  | Phosphate Rock Plants                                                                                                           | X | X | X |   |
| PP  | Ammonium Sulfate Manufacture                                                                                                    | X | X | X |   |
| QQ  | Graphic Arts Industry: Publication Rotogravure Printing                                                                         | X | X | X |   |
| RR  | Pressure Sensitive Tape and Label Surface Coating Operations                                                                    | X | X | X |   |
| SS  | Industrial Surface Coating: Large Appliances                                                                                    | X | X | X |   |

|      |                                                                                                                                                                           |   |   |   |   |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| TT   | Metal Coil Surface Coating                                                                                                                                                | X | X | X |   |
| UU   | Asphalt Processing and Asphalt Roofing Manufacture                                                                                                                        | X | X | X |   |
| VV   | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                                                          | X | X | X |   |
| VVa  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 |   |   |   |   |
| WW   | Beverage Can Surface Coating Industry                                                                                                                                     | X | X | X |   |
| XX   | Bulk Gasoline Terminals                                                                                                                                                   |   |   |   |   |
| AAA  | New Residential Wool Heaters                                                                                                                                              | X | X | X | X |
| BBB  | Rubber Tire Manufacturing Industry                                                                                                                                        | X | X | X |   |
| CCC  | (Reserved)                                                                                                                                                                |   |   |   |   |
| DDD  | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                                                        | X | X |   |   |
| EEE  | (Reserved)                                                                                                                                                                |   |   |   |   |
| FFF  | Flexible Vinyl and Urethane Coating and Printing                                                                                                                          | X | X | X |   |
| GGG  | Equipment Leaks of VOC in Petroleum Refineries                                                                                                                            | X | X | X |   |
| GGGa | Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006                                   |   |   |   |   |
| HHH  | Synthetic Fiber Production Facilities                                                                                                                                     | X | X | X |   |
| III  | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes                                 | X | X |   |   |
| JJJ  | Petroleum Dry Cleaners                                                                                                                                                    | X | X | X |   |
| KKK  | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                                                         | X | X | X |   |
| LLL  | Onshore Natural Gas Processing: SO2 Emissions                                                                                                                             | X | X | X |   |
| MMM  | (Reserved)                                                                                                                                                                |   |   |   |   |
| NNN  | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations                                          | X | X |   |   |
| OOO  | Nonmetallic Mineral Processing Plants                                                                                                                                     | X | X | X | X |
| PPP  | Wool Fiberglass Insulation Manufacturing Plants                                                                                                                           | X | X | X |   |
| QQQ  | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                                                  | X | X | X |   |
| RRR  | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                                                      | X | X | X |   |
| SSS  | Magnetic Tape Coating Facilities                                                                                                                                          | X | X | X |   |
| TTT  | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                                                        | X | X | X |   |
| UUU  | Calciners and Dryers in Mineral Industries                                                                                                                                | X | X | X | X |
| VVV  | Polymeric Coating of Supporting Substrates Facilities                                                                                                                     | X | X | X | X |
| WWW  | Municipal Solid Waste Landfills                                                                                                                                           | X | X | X | X |
|      |                                                                                                                                                                           |   |   |   |   |

|      |                                                                                                                                                                                                         |   |  |  |  |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|--|--|
| AAAA | Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999, or for Which Modification or Reconstruction is Commenced After June 6, 2001                           | X |  |  |  |
| CCCC | Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999, or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001 | X |  |  |  |
| EEEE | Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006                     | X |  |  |  |
| GGGG | (Reserved)                                                                                                                                                                                              |   |  |  |  |
| IIII | Stationary Compression Ignition Internal Combustion Engines                                                                                                                                             |   |  |  |  |
| JJJJ | Stationary Spark Ignition Internal Combustion Engines                                                                                                                                                   |   |  |  |  |
| KKKK | Stationary Combustion Turbines                                                                                                                                                                          |   |  |  |  |

(viii) Delegations for Shasta County Air Quality Management District, Siskiyou County Air Pollution Control District, South Coast Air Quality Management District, and Tehama County Air Pollution Control District are shown in the following table:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR SHASTA COUNTY AIR QUALITY MANAGEMENT DISTRICT, SISKIYOU COUNTY AIR POLLUTION CONTROL DISTRICT, SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, AND TEHAMA COUNTY AIR POLLUTION CONTROL DISTRICT**

|    | Subpart                                                                                                | Air Pollution Control Agency |                      |                  |                    |
|----|--------------------------------------------------------------------------------------------------------|------------------------------|----------------------|------------------|--------------------|
|    |                                                                                                        | Shasta County AQMD           | Siskiyou County APCD | South Coast AQMD | Tehama County APCD |
| A  | General Provisions                                                                                     | X                            | X                    | X                |                    |
| D  | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971                                   | X                            |                      | X                |                    |
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978                           |                              |                      | X                |                    |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                             |                              |                      | X                |                    |
| Dc | Small Industrial Steam Generating Units                                                                |                              |                      | X                |                    |
| E  | Incinerators                                                                                           | X                            |                      | X                |                    |
| Ea | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994     |                              |                      | X                |                    |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                        |                              |                      | X                |                    |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996 |                              |                      | X                |                    |
| F  | Portland Cement Plants                                                                                 | X                            |                      | X                |                    |
| G  | Nitric Acid Plants                                                                                     | X                            |                      | X                |                    |

|     |                                                                                                                                                                            |   |  |   |  |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|---|--|
| H   | Sulfuric Acid Plants                                                                                                                                                       | X |  | X |  |
| I   | Hot Mix Asphalt Facilities                                                                                                                                                 | X |  | X |  |
| J   | Petroleum Refineries                                                                                                                                                       | X |  | X |  |
| Ja  | Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007                                                                  |   |  |   |  |
| K   | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978                     | X |  | X |  |
| Ka  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984                     |   |  | X |  |
| Kb  | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 |   |  | X |  |
| L   | Secondary Lead Smelters                                                                                                                                                    | X |  | X |  |
| M   | Secondary Brass and Bronze Production Plants                                                                                                                               | X |  | X |  |
| N   | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                                                               | X |  | X |  |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983                                            |   |  | X |  |
| O   | Sewage Treatment Plants                                                                                                                                                    | X |  | X |  |
| P   | Primary Copper Smelters                                                                                                                                                    | X |  | X |  |
| Q   | Primary Zinc Smelters                                                                                                                                                      | X |  | X |  |
| R   | Primary Lead Smelters                                                                                                                                                      | X |  | X |  |
| S   | Primary Aluminum Reduction Plants                                                                                                                                          | X |  | X |  |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                                                                          | X |  | X |  |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                                                                 | X |  | X |  |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                                                                 | X |  | X |  |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                                                                | X |  | X |  |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                                                           | X |  | X |  |
| Y   | Coal Preparation Plants                                                                                                                                                    | X |  | X |  |
| Z   | Ferroalloy Production Facilities                                                                                                                                           | X |  | X |  |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                                                                    | X |  | X |  |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                                                              |   |  | X |  |
| BB  | Kraft pulp Mills                                                                                                                                                           | X |  | X |  |



|      |                                                                                                                                                                           |   |   |   |  |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|--|
| CC   | Glass Manufacturing Plants                                                                                                                                                |   |   | X |  |
| DD   | Grain Elevators                                                                                                                                                           | X |   | X |  |
| EE   | Surface Coating of Metal Furniture                                                                                                                                        |   |   | X |  |
| FF   | (Reserved)                                                                                                                                                                |   |   |   |  |
| GG   | Stationary Gas Turbines                                                                                                                                                   |   |   | X |  |
| HH   | Lime Manufacturing Plants                                                                                                                                                 | X |   | X |  |
| KK   | Lead-Acid Battery Manufacturing Plants                                                                                                                                    |   |   | X |  |
| LL   | Metallic Mineral Processing Plants                                                                                                                                        |   |   | X |  |
| MM   | Automobile and Light Duty Trucks Surface Coating Operations                                                                                                               |   |   | X |  |
| NN   | Phosphate Rock Plants                                                                                                                                                     |   |   | X |  |
| PP   | Ammonium Sulfate Manufacture                                                                                                                                              |   |   | X |  |
| QQ   | Graphic Arts Industry: Publication Rotogravure Printing                                                                                                                   |   |   | X |  |
| RR   | Pressure Sensitive Tape and Label Surface Coating Operations                                                                                                              |   |   | X |  |
| SS   | Industrial Surface Coating: Large Appliances                                                                                                                              |   |   | X |  |
| TT   | Metal Coil Surface Coating                                                                                                                                                |   |   | X |  |
| UU   | Asphalt Processing and Asphalt Roofing Manufacture                                                                                                                        |   |   | X |  |
| VV   | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                                                          |   |   | X |  |
| VVa  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 |   |   |   |  |
| WW   | Beverage Can Surface Coating Industry                                                                                                                                     |   |   | X |  |
| XX   | Bulk Gasoline Terminals                                                                                                                                                   |   |   |   |  |
| AAA  | New Residential Wool Heaters                                                                                                                                              |   | X | X |  |
| BBB  | Rubber Tire Manufacturing Industry                                                                                                                                        |   | X | X |  |
| CCC  | (Reserved)                                                                                                                                                                |   |   |   |  |
| DDD  | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                                                        |   |   | X |  |
| EEE  | (Reserved)                                                                                                                                                                |   |   |   |  |
| FFF  | Flexible Vinyl and Urethane Coating and Printing                                                                                                                          |   |   | X |  |
| GGG  | Equipment Leaks of VOC in Petroleum Refineries                                                                                                                            |   |   | X |  |
| GGGa | Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006                                   |   |   |   |  |
| HHH  | Synthetic Fiber Production Facilities                                                                                                                                     |   |   | X |  |
| III  | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes                                 |   |   | X |  |
| JJJ  | Petroleum Dry Cleaners                                                                                                                                                    |   |   | X |  |
| KKK  | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                                                         |   |   | X |  |
| LLL  | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                                                 |   |   | X |  |
| MMM  | (Reserved)                                                                                                                                                                |   |   |   |  |

|      |                                                                                                                                                                                                        |   |   |   |  |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|--|
| NNN  | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations                                                                       |   |   | X |  |
| OOO  | Nonmetallic Mineral Processing Plants                                                                                                                                                                  |   |   | X |  |
| PPP  | Wool Fiberglass Insulation Manufacturing Plants                                                                                                                                                        |   |   | X |  |
| QQQ  | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                                                                               |   | X | X |  |
| RRR  | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                                                                                   |   |   | X |  |
| SSS  | Magnetic Tape Coating Facilities                                                                                                                                                                       |   | X | X |  |
| TTT  | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                                                                                     |   | X | X |  |
| UUU  | Calciners and Dryers in Mineral Industries                                                                                                                                                             |   |   | X |  |
| VVV  | Polymeric Coating of Supporting Substrates Facilities                                                                                                                                                  |   |   | X |  |
| WWW  | Municipal Solid Waste Landfills                                                                                                                                                                        |   |   | X |  |
| AAAA | Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001                           | X | X | X |  |
| CCCC | Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001 |   |   | X |  |
| EEEE | Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006                    |   |   | X |  |
| GGGG | (Reserved)                                                                                                                                                                                             |   |   |   |  |
| IIII | Stationary Compression Ignition Internal Combustion Engines                                                                                                                                            |   |   | X |  |
| JJJJ | Stationary Spark Ignition Internal Combustion Engines                                                                                                                                                  |   |   |   |  |
| KKKK | Stationary Combustion Turbines                                                                                                                                                                         |   |   | X |  |

(ix) Delegations for Tuolumne County Air Pollution Control District, Ventura County Air Pollution Control District, and Yolo-Solano Air Quality Management District are shown in the following table:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR TUOLUMNE COUNTY AIR POLLUTION CONTROL DISTRICT, VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT, AND YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT**

|   | Subpart                                                              | Air Pollution Control Agency |                     |                  |
|---|----------------------------------------------------------------------|------------------------------|---------------------|------------------|
|   |                                                                      | Tuolumne County APCD         | Ventura County APCD | Yolo-Solano AQMD |
| A | General Provisions                                                   | X                            | X                   |                  |
| D | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971 | X                            | X                   |                  |

|    |                                                                                                                                                                            |   |   |  |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978                                                                                               | X |   |  |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                                                                                                 | X | X |  |
| Dc | Small Industrial Steam Generating Units                                                                                                                                    | X |   |  |
| E  | Incinerators                                                                                                                                                               | X |   |  |
| Ea | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994                                                                         | X |   |  |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                                                                                            | X |   |  |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996                                                                     | X |   |  |
| F  | Portland Cement Plants                                                                                                                                                     | X |   |  |
| G  | Nitric Acid Plants                                                                                                                                                         | X |   |  |
| H  | Sulfuric Acid Plants                                                                                                                                                       | X |   |  |
| I  | Hot Mix Asphalt Facilities                                                                                                                                                 | X | X |  |
| J  | Petroleum Refineries                                                                                                                                                       | X | X |  |
| Ja | Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007                                                                  |   |   |  |
| K  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978                     | X | X |  |
| Ka | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984                     | X |   |  |
| Kb | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 | X |   |  |
| L  | Secondary Lead Smelters                                                                                                                                                    | X |   |  |
| M  | Secondary Brass and Bronze Production Plants                                                                                                                               | X |   |  |
| N  | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                                                               | X |   |  |
| Na | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983                                            | X |   |  |
| O  | Sewage Treatment Plants                                                                                                                                                    | X |   |  |
| P  | Primary Copper Smelters                                                                                                                                                    | X |   |  |
| Q  | Primary Zinc Smelters                                                                                                                                                      | X |   |  |
| R  | Primary Lead Smelters                                                                                                                                                      | X |   |  |
| S  | Primary Aluminum Reduction Plants                                                                                                                                          | X |   |  |
| T  | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                                                                          | X |   |  |
| U  | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                                                                 | X |   |  |

|     |                                                                                                                                                                           |   |   |  |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                                                                | X |   |  |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                                                               | X |   |  |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                                                          | X |   |  |
| Y   | Coal Preparation Plants                                                                                                                                                   | X |   |  |
| Z   | Ferroalloy Production Facilities                                                                                                                                          | X |   |  |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                                                                   | X | X |  |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                                                             | X |   |  |
| BB  | Kraft pulp Mills                                                                                                                                                          | X |   |  |
| CC  | Glass Manufacturing Plants                                                                                                                                                | X |   |  |
| DD  | Grain Elevators                                                                                                                                                           | X |   |  |
| EE  | Surface Coating of Metal Furniture                                                                                                                                        | X |   |  |
| FF  | (Reserved)                                                                                                                                                                |   |   |  |
| GG  | Stationary Gas Turbines                                                                                                                                                   | X |   |  |
| HH  | Lime Manufacturing Plants                                                                                                                                                 | X |   |  |
| KK  | Lead-Acid Battery Manufacturing Plants                                                                                                                                    | X |   |  |
| LL  | Metallic Mineral Processing Plants                                                                                                                                        | X |   |  |
| MM  | Automobile and Light Duty Trucks Surface Coating Operations                                                                                                               | X |   |  |
| NN  | Phosphate Rock Plants                                                                                                                                                     | X |   |  |
| PP  | Ammonium Sulfate Manufacture                                                                                                                                              | X |   |  |
| QQ  | Graphic Arts Industry: Publication Rotogravure Printing                                                                                                                   | X |   |  |
| RR  | Pressure Sensitive Tape and Label Surface Coating Operations                                                                                                              | X |   |  |
| SS  | Industrial Surface Coating: Large Appliances                                                                                                                              | X |   |  |
| TT  | Metal Coil Surface Coating                                                                                                                                                | X |   |  |
| UU  | Asphalt Processing and Asphalt Roofing Manufacture                                                                                                                        | X |   |  |
| VV  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                                                          | X |   |  |
| VVa | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 |   |   |  |
| WW  | Beverage Can Surface Coating Industry                                                                                                                                     | X |   |  |
| XX  | Bulk Gasoline Terminals                                                                                                                                                   |   |   |  |
| AAA | New Residential Wood Heaters                                                                                                                                              | X |   |  |
| BBB | Rubber Tire Manufacturing Industry                                                                                                                                        | X |   |  |
| CCC | (Reserved)                                                                                                                                                                |   |   |  |
| DDD | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                                                        | X |   |  |
| EEE | (Reserved)                                                                                                                                                                |   |   |  |
| FFF | Flexible Vinyl and Urethane Coating and Printing                                                                                                                          | X |   |  |
| GGG | Equipment Leaks of VOC in Petroleum Refineries                                                                                                                            | X |   |  |
|     |                                                                                                                                                                           |   |   |  |

|      |                                                                                                                                                                                                        |   |   |  |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|
| GGGa | Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006                                                                |   |   |  |
| HHH  | Synthetic Fiber Production Facilities                                                                                                                                                                  | X |   |  |
| III  | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes                                                              | X |   |  |
| JJJ  | Petroleum Dry Cleaners                                                                                                                                                                                 | X |   |  |
| KKK  | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                                                                                      | X |   |  |
| LLL  | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                                                                              | X |   |  |
| MMM  | (Reserved)                                                                                                                                                                                             |   |   |  |
| NNN  | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations                                                                       | X |   |  |
| OOO  | Nonmetallic Mineral Processing Plants                                                                                                                                                                  | X | X |  |
| PPP  | Wool Fiberglass Insulation Manufacturing Plants                                                                                                                                                        | X |   |  |
| QQQ  | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                                                                               | X |   |  |
| RRR  | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                                                                                   | X |   |  |
| SSS  | Magnetic Tape Coating Facilities                                                                                                                                                                       | X |   |  |
| TTT  | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                                                                                     | X |   |  |
| UUU  | Calciners and Dryers in Mineral Industries                                                                                                                                                             | X |   |  |
| VVV  | Polymeric Coating of Supporting Substrates Facilities                                                                                                                                                  | X |   |  |
| WWW  | Municipal Solid Waste Landfills                                                                                                                                                                        | X | X |  |
| AAAA | Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001                           | X |   |  |
| CCCC | Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001 | X |   |  |
| EEEE | Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006                    |   |   |  |
| GGGG | (Reserved)                                                                                                                                                                                             |   |   |  |
| IIII | Stationary Compression Ignition Internal Combustion Engines                                                                                                                                            |   |   |  |
| JJJJ | Stationary Spark Ignition Internal Combustion Engines                                                                                                                                                  |   |   |  |
| KKKK | Stationary Combustion Turbines                                                                                                                                                                         |   |   |  |

(3) *Hawaii*. The following table identifies delegations for Hawaii:

Delegation Status for New Source Performance Standards for Hawaii:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR HAWAII**

|     | <b>Subpart</b>                                                                                                                                                             | <b>Hawaii</b> |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| A   | General Provisions                                                                                                                                                         | X             |
| D   | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971                                                                                                       | X             |
| Da  | Electric Utility Steam Generating Units Constructed After September 18, 1978                                                                                               | X             |
| Db  | Industrial-Commercial-Institutional Steam Generating Units                                                                                                                 | X             |
| Dc  | Small Industrial Steam Generating Units                                                                                                                                    | X             |
| E   | Incinerators                                                                                                                                                               | X             |
| Ea  | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994                                                                         | X             |
| Eb  | Municipal Waste Combustors Constructed After September 20, 1994                                                                                                            | X             |
| Ec  | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996                                                                     | X             |
| F   | Portland Cement Plants                                                                                                                                                     | X             |
| G   | Nitric Acid Plants                                                                                                                                                         |               |
| H   | Sulfuric Acid Plants                                                                                                                                                       |               |
| I   | Hot Mix Asphalt Facilities                                                                                                                                                 | X             |
| J   | Petroleum Refineries                                                                                                                                                       | X             |
| Ja  | Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007                                                                  |               |
| K   | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978                     | X             |
| Ka  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984                     | X             |
| Kb  | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 | X             |
| L   | Secondary Lead Smelters                                                                                                                                                    |               |
| M   | Secondary Brass and Bronze Production Plants                                                                                                                               |               |
| N   | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                                                               |               |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983                                            |               |
| O   | Sewage Treatment Plants                                                                                                                                                    | X             |
| P   | Primary Copper Smelters                                                                                                                                                    |               |
| Q   | Primary Zinc Smelters                                                                                                                                                      |               |
| R   | Primary Lead Smelters                                                                                                                                                      |               |
| S   | Primary Aluminum Reduction Plants                                                                                                                                          |               |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                                                                          |               |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                                                                 |               |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                                                                 |               |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                                                                |               |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                                                           |               |
| Y   | Coal Preparation Plants                                                                                                                                                    | X             |
| Z   | Ferroalloy Production Facilities                                                                                                                                           |               |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                                                                    | X             |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                                                              | X             |
| BB  | Kraft pulp Mills                                                                                                                                                           |               |

|      |                                                                                                                                                                           |   |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| CC   | Glass Manufacturing Plants                                                                                                                                                |   |
| DD   | Grain Elevators                                                                                                                                                           |   |
| EE   | Surface Coating of Metal Furniture                                                                                                                                        |   |
| FF   | (Reserved)                                                                                                                                                                |   |
| GG   | Stationary Gas Turbines                                                                                                                                                   | X |
| HH   | Lime Manufacturing Plants                                                                                                                                                 |   |
| KK   | Lead-Acid Battery Manufacturing Plants                                                                                                                                    |   |
| LL   | Metallic Mineral Processing Plants                                                                                                                                        |   |
| MM   | Automobile and Light Duty Trucks Surface Coating Operations                                                                                                               |   |
| NN   | Phosphate Rock Plants                                                                                                                                                     |   |
| PP   | Ammonium Sulfate Manufacture                                                                                                                                              |   |
| QQ   | Graphic Arts Industry: Publication Rotogravure Printing                                                                                                                   |   |
| RR   | Pressure Sensitive Tape and Label Surface Coating Operations                                                                                                              |   |
| SS   | Industrial Surface Coating: Large Appliances                                                                                                                              |   |
| TT   | Metal Coil Surface Coating                                                                                                                                                |   |
| UU   | Asphalt Processing and Asphalt Roofing Manufacture                                                                                                                        |   |
| VV   | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                                                          | X |
| VVa  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 |   |
| WW   | Beverage Can Surface Coating Industry                                                                                                                                     | X |
| XX   | Bulk Gasoline Terminals                                                                                                                                                   | X |
| AAA  | New Residential Wool Heaters                                                                                                                                              |   |
| BBB  | Rubber Tire Manufacturing Industry                                                                                                                                        |   |
| CCC  | (Reserved)                                                                                                                                                                |   |
| DDD  | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                                                        |   |
| EEE  | (Reserved)                                                                                                                                                                |   |
| FFF  | Flexible Vinyl and Urethane Coating and Printing                                                                                                                          |   |
| GGG  | Equipment Leaks of VOC in Petroleum Refineries                                                                                                                            | X |
| GGGa | Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006                                   |   |
| HHH  | Synthetic Fiber Production Facilities                                                                                                                                     |   |
| III  | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes                                 |   |
| JJJ  | Petroleum Dry Cleaners                                                                                                                                                    | X |
| KKK  | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                                                         |   |
| LLL  | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                                                 |   |
| MMM  | (Reserved)                                                                                                                                                                |   |
| NNN  | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations                                          | X |
| OOO  | Nonmetallic Mineral Processing Plants                                                                                                                                     | X |
| PPP  | Wool Fiberglass Insulation Manufacturing Plants                                                                                                                           |   |
| QQQ  | VOC Emissions From Petroleum Refinery Wastewater                                                                                                                          | X |
| RRR  | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                                                      |   |
| SSS  | Magnetic Tape Coating Facilities                                                                                                                                          |   |
| TTT  | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                                                        |   |
| UUU  | Calciners and Dryers in Mineral Industries                                                                                                                                | X |

|      |                                                                                                                                                                                                        |   |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| VVV  | Polymeric Coating of Supporting Substrates Facilities                                                                                                                                                  | X |
| WWW  | Municipal Solid Waste Landfills                                                                                                                                                                        | X |
| AAAA | Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001                           | X |
| CCCC | Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001 | X |
| EEEE | Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006                    |   |
| GGGG | (Reserved)                                                                                                                                                                                             |   |
| IIII | Stationary Compression Ignition Internal Combustion Engines                                                                                                                                            |   |
| JJJJ | Stationary Spark Ignition Internal Combustion Engines                                                                                                                                                  |   |
| KKKK | Stationary Combustion Turbines                                                                                                                                                                         |   |

(4) *Nevada*. The following table identifies delegations for Nevada:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR NEVADA**

|    | Subpart                                                                                                                                                | Air Pollution Control Agency |                 |                  |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------|------------------|
|    |                                                                                                                                                        | Nevada<br>DEP                | Clark<br>County | Washoe<br>County |
| A  | General Provisions                                                                                                                                     | X                            | X               | X                |
| D  | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971                                                                                   | X                            | X               | X                |
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978                                                                           | X                            |                 |                  |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                                                                             | X                            |                 |                  |
| Dc | Small Industrial Steam Generating Units                                                                                                                | X                            |                 |                  |
| E  | Incinerators                                                                                                                                           | X                            | X               | X                |
| Ea | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994                                                     | X                            |                 |                  |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                                                                        | X                            |                 |                  |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996                                                 | X                            |                 |                  |
| F  | Portland Cement Plants                                                                                                                                 | X                            | X               | X                |
| G  | Nitric Acid Plants                                                                                                                                     | X                            | X               |                  |
| H  | Sulfuric Acid Plants                                                                                                                                   | X                            | X               |                  |
| I  | Hot Mix Asphalt Facilities                                                                                                                             | X                            | X               | X                |
| J  | Petroleum Refineries                                                                                                                                   | X                            | X               |                  |
| Ja | Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007                                              |                              |                 |                  |
| K  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 | X                            | X               | X                |
| Ka | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 | X                            | X               | X                |



|     |                                                                                                                                                                            |   |   |   |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|
| Kb  | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 | X |   |   |
| L   | Secondary Lead Smelters                                                                                                                                                    | X | X | X |
| M   | Secondary Brass and Bronze Production Plants                                                                                                                               | X | X |   |
| N   | Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973                                                               | X | X |   |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983                                            | X |   |   |
| O   | Sewage Treatment Plants                                                                                                                                                    | X | X | X |
| P   | Primary Copper Smelters                                                                                                                                                    | X | X | X |
| Q   | Primary Zinc Smelters                                                                                                                                                      | X | X | X |
| R   | Primary Lead Smelters                                                                                                                                                      | X | X | X |
| S   | Primary Aluminum Reduction Plants                                                                                                                                          | X | X |   |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants                                                                                                          | X | X |   |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                                                                                 | X | X |   |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                                                                                 | X | X |   |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                                                                                | X | X |   |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                                                                           | X | X |   |
| Y   | Coal Preparation Plants                                                                                                                                                    | X | X | X |
| Z   | Ferroalloy Production Facilities                                                                                                                                           | X | X |   |
| AA  | Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983                                                                    | X | X |   |
| AAa | Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983                                                              | X |   |   |
| BB  | Kraft pulp Mills                                                                                                                                                           | X | X |   |
| CC  | Glass Manufacturing Plants                                                                                                                                                 | X | X |   |
| DD  | Grain Elevators                                                                                                                                                            | X | X | X |
| EE  | Surface Coating of Metal Furniture                                                                                                                                         | X | X | X |
| FF  | (Reserved)                                                                                                                                                                 |   |   |   |
| GG  | Stationary Gas Turbines                                                                                                                                                    | X | X | X |
| HH  | Lime Manufacturing Plants                                                                                                                                                  | X | X | X |
| KK  | Lead-Acid Battery Manufacturing Plants                                                                                                                                     | X | X | X |
| LL  | Metallic Mineral Processing Plants                                                                                                                                         | X | X | X |
| MM  | Automobile and Light Duty Trucks Surface Coating Operations                                                                                                                | X | X | X |
| NN  | Phosphate Rock Plants                                                                                                                                                      | X | X | X |
| PP  | Ammonium Sulfate Manufacture                                                                                                                                               | X | X |   |
| QQ  | Graphic Arts Industry: Publication Rotogravure Printing                                                                                                                    | X | X | X |
| RR  | Pressure Sensitive Tape and Label Surface Coating Operations                                                                                                               | X | X |   |
| SS  | Industrial Surface Coating: Large Appliances                                                                                                                               | X | X | X |
| TT  | Metal Coil Surface Coating                                                                                                                                                 | X | X | X |
| UU  | Asphalt Processing and Asphalt Roofing Manufacture                                                                                                                         | X | X | X |
| VV  | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry                                                                                           | X | X | X |
| VVa | Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006  |   |   |   |

|      |                                                                                                                                                                                                        |   |   |   |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|
| WW   | Beverage Can Surface Coating Industry                                                                                                                                                                  | X | X |   |
| XX   | Bulk Gasoline Terminals                                                                                                                                                                                | X | X |   |
| AAA  | New Residential Wool Heaters                                                                                                                                                                           |   |   |   |
| BBB  | Rubber Tire Manufacturing Industry                                                                                                                                                                     | X |   |   |
| CCC  | (Reserved)                                                                                                                                                                                             |   |   |   |
| DDD  | Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry                                                                                                                     | X |   |   |
| EEE  | (Reserved)                                                                                                                                                                                             |   |   |   |
| FFF  | Flexible Vinyl and Urethane Coating and Printing                                                                                                                                                       | X | X |   |
| GGG  | Equipment Leaks of VOC in Petroleum Refineries                                                                                                                                                         | X | X |   |
| GGGa | Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006                                                                |   |   |   |
| HHH  | Synthetic Fiber Production Facilities                                                                                                                                                                  | X | X |   |
| III  | Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes                                                              | X |   |   |
| JJJ  | Petroleum Dry Cleaners                                                                                                                                                                                 | X | X | X |
| KKK  | Equipment Leaks of VOC From Onshore Natural Gas Processing Plants                                                                                                                                      | X |   |   |
| LLL  | Onshore Natural Gas Processing: SO2 Emissions                                                                                                                                                          | X |   |   |
| MMM  | (Reserved)                                                                                                                                                                                             |   |   |   |
| NNN  | Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations                                                                       | X |   |   |
| OOO  | Nonmetallic Mineral Processing Plants                                                                                                                                                                  | X | X |   |
| PPP  | Wool Fiberglass Insulation Manufacturing Plants                                                                                                                                                        | X | X |   |
| QQQ  | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                                                                               | X |   |   |
| RRR  | Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes                                                                                   | X |   |   |
| SSS  | Magnetic Tape Coating Facilities                                                                                                                                                                       | X |   |   |
| TTT  | Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines                                                                                                                     | X |   |   |
| UUU  | Calciners and Dryers in Mineral Industries                                                                                                                                                             | X |   |   |
| VVV  | Polymeric Coating of Supporting Substrates Facilities                                                                                                                                                  | X |   |   |
| WWW  | Municipal Solid Waste Landfills                                                                                                                                                                        | X |   |   |
| AAAA | Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001                           | X |   |   |
| CCCC | Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001 | X |   |   |
| EEEE | Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006                    | X |   |   |
| GGGG | (Reserved)                                                                                                                                                                                             |   |   |   |
| IIII | Stationary Compression Ignition Internal Combustion Engines                                                                                                                                            | X |   |   |
| JJJJ | Stationary Spark Ignition Internal Combustion Engines                                                                                                                                                  | X |   |   |

|      |                                |   |  |  |
|------|--------------------------------|---|--|--|
| KKKK | Stationary Combustion Turbines | X |  |  |
|------|--------------------------------|---|--|--|

(5) *Guam*. The following table identifies delegations as of June 15, 2001:

**DELEGATION STATUS FOR NEW SOURCE PERFORMANCE STANDARDS FOR GUAM**

|    | <b>Subpart</b>                                                                                                                                         | <b>Guam</b> |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| A  | General Provisions                                                                                                                                     | X           |
| D  | Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971                                                                                   | X           |
| Da | Electric Utility Steam Generating Units Constructed After September 18, 1978                                                                           |             |
| Db | Industrial-Commercial-Institutional Steam Generating Units                                                                                             |             |
| Dc | Small Industrial Steam Generating Units                                                                                                                |             |
| E  | Incinerators                                                                                                                                           |             |
| Ea | Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994                                                     |             |
| Eb | Municipal Waste Combustors Constructed After September 20, 1994                                                                                        |             |
| Ec | Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996                                                 |             |
| F  | Portland Cement Plants                                                                                                                                 | X           |
| G  | Nitric Acid Plants                                                                                                                                     |             |
| H  | Sulfuric Acid Plants                                                                                                                                   |             |
| I  | Hot Mix Asphalt Facilities                                                                                                                             | X           |
| J  | Petroleum Refineries                                                                                                                                   | X           |
| K  | Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 | X           |

(e) The following lists the specific part 60 standards that have been delegated unchanged to the air pollution control agencies in Region 6.

(1) *New Mexico*. The New Mexico Environment Department has been delegated all part 60 standards promulgated by EPA, except subpart AAA—Standards of Performance for New Residential Wood Heaters, as amended in the FEDERAL REGISTER through September 1, 2002.

(2) *Louisiana*. The Louisiana Department of Environmental Quality has been delegated all part 60 standards promulgated by EPA, except subpart AAA—Standards for Performance for New Residential Wood Heaters, as amended in the FEDERAL REGISTER through July 1, 2008.

**DELEGATION STATUS FOR PART 60 STANDARDS—STATE OF LOUISIANA**

| <b>Subpart</b> | <b>Source category</b>                                                                                                                             | <b>LDEQ<sup>1</sup></b> |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| A              | General Provisions                                                                                                                                 | Yes.                    |
| D              | Fossil Fueled Steam Generators (>250 MM BTU/hr). Including amendments issued January 28, 2009. (74 FR 5072)                                        | Yes.                    |
| Da             | Electric Utility Steam Generating Units (>250 MM BTU/hr). Including amendments issued January 28, 2009. (74 FR 5072)                               | Yes.                    |
| Db             | Industrial-Commercial-Institutional Steam Generating Units (100 to 250 MM BTU/hr). Including amendments issued January 28, 2009. (74 FR 5072)      | Yes.                    |
| Dc             | Industrial-Commercial-Institutional Small Steam Generating Units (10 to 100 MM BTU/hr). Including amendments issued January 28, 2009. (74 FR 5072) | Yes.                    |

|     |                                                                                                                       |      |
|-----|-----------------------------------------------------------------------------------------------------------------------|------|
| E   | Incinerators (>50 tons per day). Including amendments issued January 28, 2009. (74 FR 5072)                           | Yes. |
| Ea  | Municipal Waste Combustors                                                                                            | Yes. |
| Eb  | Large Municipal Waste Combustors                                                                                      | Yes. |
| Ec  | Hospital/Medical/Infectious Waste Incinerators                                                                        | Yes. |
| F   | Portland Cement Plants                                                                                                | Yes. |
| G   | Nitric Acid Plants                                                                                                    | Yes. |
| H   | Sulfuric Acid Plants                                                                                                  | Yes. |
| I   | Hot Mix Asphalt Facilities                                                                                            | Yes. |
| J   | Petroleum Refineries                                                                                                  | Yes. |
| Ja  | Petroleum Refineries (After May 14, 2007). Including amendments issued July 28, 2008. (73 FR 43626)                   | Yes. |
| K   | Storage Vessels for Petroleum Liquids (After 6/11/73 & Before 5/19/78)                                                | Yes. |
| Ka  | Storage Vessels for Petroleum Liquids (After 6/11/73 & Before 5/19/78)                                                | Yes. |
| Kb  | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Stg/Vessels) After 7/23/84                        | Yes. |
| L   | Secondary Lead Smelters                                                                                               | Yes. |
| M   | Secondary Brass and Bronze Production Plants                                                                          | Yes. |
| N   | Primary Emissions from Basic Oxygen Process Furnaces (Construction Commenced After June 11, 1973)                     | Yes. |
| Na  | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities Construction is Commenced After January 20, 1983 | Yes. |
| O   | Sewage Treatment Plants                                                                                               | Yes. |
| P   | Primary Copper Smelters                                                                                               | Yes. |
| Q   | Primary Zinc Smelters                                                                                                 | Yes. |
| R   | Primary Lead Smelters                                                                                                 | Yes. |
| S   | Primary Aluminum Reduction Plants                                                                                     | Yes. |
| T   | Phosphate Fertilizer Industry: Wet Process Phosphoric Plants                                                          | Yes. |
| U   | Phosphate Fertilizer Industry: Superphosphoric Acid Plants                                                            | Yes. |
| V   | Phosphate Fertilizer Industry: Diammonium Phosphate Plants                                                            | Yes. |
| W   | Phosphate Fertilizer Industry: Triple Superphosphate Plants                                                           | Yes. |
| X   | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                                      | Yes. |
| Y   | Coal Preparation Plants                                                                                               | Yes. |
| Z   | Ferroalloy Production Facilities                                                                                      | Yes. |
| AA  | Steel Plants: Electric Arc Furnaces After 10/21/74 & On or Before 8/17/83                                             | Yes. |
| AAa | Steel Plants: Electric Arc Furnaces & Argon-Oxygen Decarburization Vessels After 8/07/83                              | Yes. |
| BB  | Kraft Pulp Mills                                                                                                      | Yes. |
| CC  | Glass Manufacturing Plants                                                                                            | Yes. |
| DD  | Grain Elevators                                                                                                       | Yes. |
| EE  | Surface Coating of Metal Furniture                                                                                    | Yes. |
| GG  | Stationary Gas Turbines                                                                                               | Yes. |
| HH  | Lime Manufacturing Plants                                                                                             | Yes. |
| KK  | Lead-Acid Battery Manufacturing Plants                                                                                | Yes. |
| LL  | Metallic Mineral Processing Plants                                                                                    | Yes. |
| MM  | Automobile & Light Duty Truck Surface Coating Operations                                                              | Yes. |
| NN  | Phosphate Manufacturing Plants                                                                                        | Yes. |
| PP  | Ammonium Sulfate Manufacture                                                                                          | Yes. |

|      |                                                                                                                                                                       |      |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| QQ   | Graphic Arts Industry: Publication Rotogravure Printing                                                                                                               | Yes. |
| RR   | Pressure Sensitive Tape and Label Surface Coating Operations                                                                                                          | Yes. |
| SS   | Industrial Surface Coating: Large Appliances                                                                                                                          | Yes. |
| TT   | Metal Coil Surface Coating                                                                                                                                            | Yes. |
| UU   | Asphalt Processing and Asphalt Roofing Manufacture                                                                                                                    | Yes. |
| VV   | VOC Equipment Leaks in the SOCM I Industry                                                                                                                            | Yes. |
| VVa  | VOC Equipment Leaks in the SOCM I Industry (After November 7, 2006)                                                                                                   | Yes. |
| XX   | Bulk Gasoline Terminals                                                                                                                                               | Yes. |
| AAA  | New Residential Wood Heaters                                                                                                                                          | No   |
| BBB  | Rubber Tire Manufacturing Industry                                                                                                                                    | Yes. |
| DDD  | Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry                                                                                     | Yes. |
| FFF  | Flexible Vinyl and Urethane Coating and Printing                                                                                                                      | Yes. |
| GGG  | VOC Equipment Leaks in Petroleum Refineries                                                                                                                           | Yes. |
| HHH  | Synthetic Fiber Production                                                                                                                                            | Yes. |
| III  | VOC Emissions from the SOCM I Air Oxidation Unit Processes                                                                                                            | Yes. |
| JJJ  | Petroleum Dry Cleaners                                                                                                                                                | Yes. |
| KKK  | VOC Equipment Leaks From Onshore Natural Gas Processing Plants                                                                                                        | Yes. |
| LLL  | Onshore Natural Gas Processing: SO <sub>2</sub> Emissions                                                                                                             | Yes. |
| NNN  | VOC Emissions from SOCM I Distillation Operations                                                                                                                     | Yes. |
| OOO  | Nonmetallic Mineral Processing Plants                                                                                                                                 | Yes. |
| PPP  | Wool Fiberglass Insulation Manufacturing Plants                                                                                                                       | Yes. |
| QQQ  | VOC Emissions From Petroleum Refinery Wastewater Systems                                                                                                              | Yes. |
| RRR  | VOC Emissions from SOCM I Reactor Processes                                                                                                                           | Yes. |
| SSS  | Magnetic Tape Coating Operations                                                                                                                                      | Yes. |
| TTT  | Industrial Surface Coating: Plastic Parts for Business Machines                                                                                                       | Yes. |
| UUU  | Calciners and Dryers in Mineral Industries                                                                                                                            | Yes. |
| VVV  | Polymeric Coating of Supporting Substrates Facilities                                                                                                                 | Yes. |
| WWW  | Municipal Solid Waste Landfills                                                                                                                                       | Yes. |
| AAAA | Small Municipal Waste Combustion Units (Construction is Commenced After 8/30/99 or Modification/Reconstruction is Commenced After 6/06/2001)                          | Yes. |
| CCCC | Commercial & Industrial Solid Waste Incineration Units (Construction is Commenced After 11/30/1999 or Modification/Reconstruction is Commenced on or After 6/01/2001) | Yes. |
| EEEE | Other Solid Waste Incineration Units (Constructed after 12/09/2004 or Modication/Reconstruction is commenced on or after 06/16/2004)                                  | Yes. |
| IIII | Stationary Compression Ignition Internal Combustion Engines                                                                                                           | Yes. |
| JJJJ | Stationary Spark Ignition Internal Combustion Engines. Including amendments issued October 8, 2008. (73 FR 59175)                                                     | Yes. |
| KKKK | Stationary Combustion Turbines (Construction Commenced After 02/18/2005)                                                                                              | Yes  |

<sup>1</sup> The Louisiana Department of Environmental Quality (LDEQ) has been delegated all Part 60 standards promulgated by EPA, except subpart AAA—Standards of Performance for New Residential Wood Heaters—as amended in the Federal Register through July 1, 2008.

(3) *Albuquerque-Bernalillo County Air Quality Control Board.* The Albuquerque-Bernalillo County Air Quality Control Board has been delegated all part 60 standards promulgated by EPA, except Subpart AAA—Standards of Performance for New Residential Wood Heaters; Subpart WWW—Standards of Performance for Municipal Solid Waste Landfills; Subpart Cc—Emissions Guidelines and Compliance Times for Municipal Solid Waste Landfills, as amended in the FEDERAL REGISTER through July 1, 2004.

[40 FR 18169, Apr. 25, 1975]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 60.4 see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.fdsys.gov](http://www.fdsys.gov).

#### **§ 60.5 Determination of construction or modification.**

(a) When requested to do so by an owner or operator, the Administrator will make a determination of whether action taken or intended to be taken by such owner or operator constitutes construction (including reconstruction) or modification or the commencement thereof within the meaning of this part.

(b) The Administrator will respond to any request for a determination under paragraph (a) of this section within 30 days of receipt of such request.

[40 FR 58418, Dec. 16, 1975]

#### **§ 60.6 Review of plans.**

(a) When requested to do so by an owner or operator, the Administrator will review plans for construction or modification for the purpose of providing technical advice to the owner or operator.

(b)(1) A separate request shall be submitted for each construction or modification project.

(2) Each request shall identify the location of such project, and be accompanied by technical information describing the proposed nature, size, design, and method of operation of each affected facility involved in such project, including information on any equipment to be used for measurement or control of emissions.

(c) Neither a request for plans review nor advice furnished by the Administrator in response to such request shall (1) relieve an owner or operator of legal responsibility for compliance with any provision of this part or of any applicable State or local requirement, or (2) prevent the Administrator from implementing or enforcing any provision of this part or taking any other action authorized by the Act.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 9314, Mar. 8, 1974]

#### **§ 60.7 Notification and record keeping.**

(a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification or, if acceptable to both the Administrator and the owner or operator of a source, electronic notification, as follows:

(1) A notification of the date construction (or reconstruction as defined under § 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.

(2) [Reserved]

(3) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in § 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

(5) A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with § 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.

(6) A notification of the anticipated date for conducting the opacity observations required by § 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.

(7) A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by § 60.8 in lieu of Method 9 observation data as allowed by § 60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.

(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(c) Each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with § 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(d) The summary report form shall contain the information and be in the format shown in figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in § 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in § 60.7(c) shall both be submitted.

**FIGURE 1—SUMMARY REPORT—GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM  
PERFORMANCE**

Pollutant (Circle One—SO<sub>2</sub> /NO<sub>x</sub> /TRS/H<sub>2</sub> S/CO/Opacity)

Reporting period dates: From \_\_\_\_\_ to \_\_\_\_\_

Company: \_\_\_\_\_

Emission Limitation\_\_\_\_\_

Address: \_\_\_\_\_

Monitor Manufacturer and Model No. \_\_\_\_\_

Date of Latest CMS Certification or Audit\_\_\_\_\_

Process Unit(s) Description: \_\_\_\_\_

Total source operating time in reporting period <sup>1</sup>

| <b>Emission data summary <sup>1</sup></b>                                   |                | <b>CMS performance summary <sup>1</sup></b>                   |                |
|-----------------------------------------------------------------------------|----------------|---------------------------------------------------------------|----------------|
| 1. Duration of excess emissions in reporting period due to:                 |                | 1. CMS downtime in reporting period due to:                   |                |
| a. Startup/shutdown                                                         |                | a. Monitor equipment malfunctions                             |                |
| b. Control equipment problems                                               |                | b. Non-Monitor equipment malfunctions                         |                |
| c. Process problems                                                         |                | c. Quality assurance calibration                              |                |
| d. Other known causes                                                       |                | d. Other known causes                                         |                |
| e. Unknown causes                                                           |                | e. Unknown causes                                             |                |
| 2. Total duration of excess emission                                        |                | 2. Total CMS Downtime                                         |                |
| 3. Total duration of excess emissions × (100) [Total source operating time] | % <sup>2</sup> | 3. [Total CMS Downtime] × (100) [Total source operating time] | % <sup>2</sup> |

<sup>1</sup> For opacity, record all times in minutes. For gases, record all times in hours.

<sup>2</sup> For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in § 60.7(c) shall be submitted.

On a separate page, describe any changes since last quarter in CMS, process or controls. I certify that the information contained in this report is true, accurate, and complete.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

(e)(1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this



section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.

(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows:

(1) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(2) This paragraph applies to owners or operators required to install a CEMS where the measured

data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(3) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (f) of this section, if the Administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(g) If notification substantially similar to that in paragraph (a) of this section is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of paragraph (a) of this section.

(h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

[36 FR 24877, Dec. 28, 1971, as amended at 40 FR 46254, Oct. 6, 1975; 40 FR 58418, Dec. 16, 1975; 45 FR 5617, Jan. 23, 1980; 48 FR 48335, Oct. 18, 1983; 50 FR 53113, Dec. 27, 1985; 52 FR 9781, Mar. 26, 1987; 55 FR 51382, Dec. 13, 1990; 59 FR 12428, Mar. 16, 1994; 59 FR 47265, Sep. 15, 1994; 64 FR 7463, Feb. 12, 1999]

## **§ 60.8 Performance tests.**

(a) Except as specified in paragraphs (a)(1), (a)(2), (a)(3), and (a)(4) of this section, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, or at such other times specified by this part, and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

(1) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure, the owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have known that the event may cause or caused a delay in testing 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 shall occur as soon as practicable.

(2) The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in testing 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 the owner or operator proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure occurs.

(3) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an extension as soon as practicable.

(4) Until an extension of the performance test deadline has been approved by the Administrator under paragraphs (a)(1), (2), and (3) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use

of an equivalent method, (3) 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, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

(d) The owner or operator of an affected facility shall 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, the owner or operator of an affected facility shall notify the Administrator (or delegated State or local agency) 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 (or delegated State or local agency) by mutual agreement.

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

(2) Safe sampling platform(s).

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

(4) Utilities for sampling and testing equipment.

(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. 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 the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(g) The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling

trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

(1) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3C of Appendix A-3 of Part 60, Methods 6C, 7E, 9, and 10 of Appendix A-4 of Part 60, Method 18 of Appendix A-6 of Part 60, Methods 20, 22, and 25A of Appendix A-7 of Part 60, and Methods 303, 318, 320, and 321 of Appendix A of Part 63. If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. "Commercially available" means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, <http://www.epa.gov/ttn/emc>, to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering an audit sample, the source, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request and the compliance authority may grant a waiver to the requirement that a representative of the compliance authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance authority and report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

(2) An AASP shall have and shall prepare, analyze, and report the true value of audit samples in

accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:

(i) Preparing the sample;

(ii) Confirming the true concentration of the sample;

(iii) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range.

(iv) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;

(v) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;

(vi) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;

(vii) The AASP shall report the results from each audit sample in a timely manner to the compliance authority and then to the source owner, operator, or representative. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.

(viii) Evaluating the acceptance limits of samples at least once every two years to determine in cooperation with the voluntary consensus standard body if they should be changed;

(ix) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

(3) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

(i) Checking audit samples to confirm their true value as reported by the AASP;

(ii) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years;

(iii) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.

(4) The technical criteria documents for the accredited sample providers and the accrediting body

shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget Circular A-119. A copy of Circular A-119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395-6880 or downloading online at [http://standards.gov/standards\\_gov/a119.cfm](http://standards.gov/standards_gov/a119.cfm). The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in paragraphs (g)(2) through (4) of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, <http://www.epa.gov/ttn/emc>.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 9314, Mar. 8, 1974; 42 FR 57126, Nov. 1, 1977; 44 FR 33612, June 11, 1979; 54 FR 6662, Feb. 14, 1989; 54 FR 21344, May 17, 1989; 64 FR 7463, Feb. 12, 1999; 72 FR 27442, May 16, 2007; 75 FR 55646, Sept. 13, 2010]

#### **§ 60.9 Availability of information.**

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. (Information submitted voluntarily to the Administrator for the purposes of §§ 60.5 and 60.6 is governed by §§ 2.201 through 2.213 of this chapter and not by § 2.301 of this chapter.)

#### **§ 60.10 State authority.**

The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from:

(a) Adopting and enforcing any emission standard or limitation applicable to an affected facility, provided that such emission standard or limitation is not less stringent than the standard applicable to such facility.

(b) Requiring the owner or operator of an affected facility to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such facility.

#### **§ 60.11 Compliance with standards and maintenance requirements.**

(a) Compliance with standards in this part, other than opacity standards, shall be determined in accordance with performance tests established by § 60.8, unless otherwise specified in the applicable standard.

(b) Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in paragraph (e)(5) of this section. For purposes of determining initial compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test or other set of observations (meaning those fugitive-type emission sources subject only to an opacity standard).

(c) The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e)(1) For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in § 60.8 unless one of the following conditions apply. If no performance test under § 60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility. If visibility or other conditions prevent the opacity observations from being conducted concurrently with the initial performance test required under § 60.8, the source owner or operator shall reschedule the opacity observations as soon after the initial performance test as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. In these cases, the 30-day prior notification to the Administrator required in § 60.7(a)(6) shall be waived. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under § 60.8. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from being made concurrently with the initial performance test in accordance with procedures contained in Method 9 of appendix B of this part. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The owner or operator of an affected facility shall make available, upon request by the Administrator, such records as may be necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification. Except as provided in paragraph (e)(5) of this section, the results of continuous monitoring by transmissometer which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation) Performance Specification 1 in appendix B of this part, has been properly maintained and (at the time of the alleged violation) that the resulting data have not been altered in any way.

(2) Except as provided in paragraph (e)(3) of this section, the owner or operator of an affected facility to which an opacity standard in this part applies shall conduct opacity observations in accordance with paragraph (b) of this section, shall record the opacity of emissions, and shall report to the Administrator the opacity results along with the results of the initial performance test required under § 60.8. The inability of an owner or operator to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial performance test.

(3) The owner or operator of an affected facility to which an opacity standard in this part applies may request the Administrator to determine and to record the opacity of emissions from the affected facility during the initial performance test and at such times as may be required. The owner or operator of the affected facility shall report the opacity results. Any request to the Administrator to determine and to record the opacity of emissions from an affected facility shall be included in the notification required in § 60.7(a)(6). If, for some reason, the Administrator cannot determine and record the opacity of emissions from the affected facility during the performance test, then the provisions of paragraph (e)(1) of this section shall apply.

(4) An owner or operator of an affected facility using a continuous opacity monitor (transmissometer) shall record the monitoring data produced during the initial performance test required by § 60.8 and shall furnish the Administrator a written report of the monitoring results along with Method 9 and § 60.8 performance test results.

(5) An owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under § 60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under § 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under § 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under § 60.8 using

COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under § 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in § 60.13(c) of this part, that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine compliance with the opacity standard.

(6) Upon receipt from an owner or operator of the written reports of the results of the performance tests required by § 60.8, the opacity observation results and observer certification required by § 60.11(e)(1), and the COMS results, if applicable, the Administrator will make a finding concerning compliance with opacity and other applicable standards. If COMS data results are used to comply with an opacity standard, only those results are required to be submitted along with the performance test results required by § 60.8. If the Administrator finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with § 60.8 of this part but during the time such performance tests are being conducted fails to meet any applicable opacity standard, he shall notify the owner or operator and advise him that he may petition the Administrator within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.

(7) The Administrator will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under the conditions established by the Administrator; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.

(8) The Administrator will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity standard in the FEDERAL REGISTER.

(f) Special provisions set forth under an applicable subpart shall supersede any conflicting provisions in paragraphs (a) through (e) of this section.

(g) For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[38 FR 28565, Oct. 15, 1973, as amended at 39 FR 39873, Nov. 12, 1974; 43 FR 8800, Mar. 3, 1978; 45 FR 23379, Apr. 4, 1980; 48 FR 48335, Oct. 18, 1983; 50 FR 53113, Dec. 27, 1985; 51 FR 1790, Jan. 15, 1986; 52 FR 9781, Mar. 26, 1987; 62 FR 8328, Feb. 24, 1997; 65 FR 61749, Oct. 17, 2000]

#### **§ 60.12 Circumvention.**

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[39 FR 9314, Mar. 8, 1974]

#### **§ 60.13 Monitoring requirements.**



(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B to this part and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to this part, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.

(b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under § 60.8. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

(c) If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under § 60.11(e)(5), he shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, appendix B, of this part before the performance test required under § 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under § 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of this part. The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under § 60.8 and as described in § 60.11(e)(5) shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in paragraph (c) of this section at least 10 days before the performance test required under § 60.8 is conducted.

(2) Except as provided in paragraph (c)(1) of this section, the owner or operator of an affected facility shall furnish the Administrator within 60 days of completion two or, upon request, more copies of a written report of the results of the performance evaluation.

(d)(1) Owners and operators of a CEMS installed in accordance with the provisions of this part, must check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span must, as a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable performance specification in appendix B of this part. The system must allow the amount of the excess zero and span drift to be recorded and quantified whenever specified. Owners and operators of a COMS installed in accordance with the provisions of this part, must automatically, intrinsic to the opacity monitor, check the zero and upscale (span) calibration drifts at least once daily. For a particular COMS, the acceptable range of zero and upscale calibration materials is as defined in the applicable version of PS-1 in appendix B of this part. For a COMS, the optical surfaces, exposed to the effluent gases, must be cleaned before performing the zero and upscale drift adjustments, except for systems using automatic zero adjustments. The optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures must be followed for a COMS. Minimum procedures must include an automated method for producing a simulated zero opacity condition and an upscale opacity condition using a certified neutral density filter or other related technique to produce a known obstruction of the light beam. Such procedures must provide a system check of all active analyzer internal optics with power or curvature, all active electronic circuitry including the light source and photodetector assembly, and electronic or electro-mechanical systems and hardware and or software used during normal measurement operation.

(e) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments

required under paragraph (d) of this section, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by paragraph (c) of this section for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by paragraph (c) of this section for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(f) All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of this part shall be used.

(g) When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Administrator. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system.

(h)(1) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in § 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period.

(2) For continuous monitoring systems other than opacity, 1-hour averages shall be computed as follows, except that the provisions pertaining to the validation of partial operating hours are only applicable for affected facilities that are required by the applicable subpart to include partial hours in the emission calculations:

(i) Except as provided under paragraph (h)(2)(iii) of this section, for a full operating hour (any clock hour with 60 minutes of unit operation), at least four valid data points are required to calculate the hourly average, *i.e.*, one data point in each of the 15-minute quadrants of the hour.

(ii) Except as provided under paragraph (h)(2)(iii) of this section, for a partial operating hour (any clock hour with less than 60 minutes of unit operation), at least one valid data point in each 15-minute quadrant of the hour in which the unit operates is required to calculate the hourly average.

(iii) For any operating hour in which required maintenance or quality-assurance activities are performed:

(A) If the unit operates in two or more quadrants of the hour, a minimum of two valid data points, separated by at least 15 minutes, is required to calculate the hourly average; or

(B) If the unit operates in only one quadrant of the hour, at least one valid data point is required to calculate the hourly average.

(iv) If a daily calibration error check is failed during any operating hour, all data for that hour shall be invalidated, unless a subsequent calibration error test is passed in the same hour and the requirements of paragraph (h)(2)(iii) of this section are met, based solely on valid data recorded after the successful

calibration.

(v) For each full or partial operating hour, all valid data points shall be used to calculate the hourly average.

(vi) Except as provided under paragraph (h)(2)(vii) of this section, data recorded during periods of continuous monitoring system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph.

(vii) Owners and operators complying with the requirements of § 60.7(f)(1) or (2) must include any data recorded during periods of monitor breakdown or malfunction in the data averages.

(viii) When specified in an applicable subpart, hourly averages for certain partial operating hours shall not be computed or included in the emission averages ( e.g. hours with < 30 minutes of unit operation under § 60.47b(d)).

(ix) Either arithmetic or integrated averaging of all data may be used to calculate the hourly averages. The data may be recorded in reduced or nonreduced form ( e.g. , ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant).

(3) All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the applicable subpart. After conversion into units of the standard, the data may be rounded to the same number of significant digits used in the applicable subpart to specify the emission limit.

(i) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following:

(1) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases.

(2) Alternative monitoring requirements when the affected facility is infrequently operated.

(3) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.

(4) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.

(5) Alternative methods of converting pollutant concentration measurements to units of the standards.

(6) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.

(7) Alternatives to the A.S.T.M. test methods or sampling procedures specified by any subpart.

(8) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, appendix B, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The Administrator may require that such demonstration be performed for each affected facility.

(9) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities is released to the atmosphere through more than one point.

(j) An alternative to the relative accuracy (RA) test specified in Performance Specification 2 of appendix B may be requested as follows:

(1) An alternative to the reference method tests for determining RA is available for sources with emission rates demonstrated to be less than 50 percent of the applicable standard. A source owner or operator may petition the Administrator to waive the RA test in Section 8.4 of Performance Specification 2 and substitute the procedures in Section 16.0 if the results of a performance test conducted according to the requirements in § 60.8 of this subpart or other tests performed following the criteria in § 60.8 demonstrate that the emission rate of the pollutant of interest in the units of the applicable standard is less than 50 percent of the applicable standard. For sources subject to standards expressed as control efficiency levels, a source owner or operator may petition the Administrator to waive the RA test and substitute the procedures in Section 16.0 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the continuous emission monitoring system is used to determine compliance continuously with the applicable standard. The petition to waive the RA test shall include a detailed description of the procedures to be applied. Included shall be location and procedure for conducting the alternative, the concentration or response levels of the alternative RA materials, and the other equipment checks included in the alternative procedure. The Administrator will review the petition for completeness and applicability. The determination to grant a waiver will depend on the intended use of the CEMS data (e.g., data collection purposes other than NSPS) and may require specifications more stringent than in Performance Specification 2 (e.g., the applicable emission limit is more stringent than NSPS).

(2) The waiver of a CEMS RA test will be reviewed and may be rescinded at such time, following successful completion of the alternative RA procedure, that the CEMS data indicate that the source emissions are approaching the level. The criterion for reviewing the waiver is the collection of CEMS data showing that emissions have exceeded 70 percent of the applicable standard for seven, consecutive, averaging periods as specified by the applicable regulation(s). For sources subject to standards expressed as control efficiency levels, the criterion for reviewing the waiver is the collection of CEMS data showing that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for seven, consecutive, averaging periods as specified by the applicable regulation(s) [e.g., § 60.45(g) (2) and (3), § 60.73(e), and § 60.84(e)]. It is the responsibility of the source operator to maintain records and determine the level of emissions relative to the criterion on the waiver of RA testing. If this criterion is exceeded, the owner or operator must notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increasing emissions. The Administrator will review the notification and may rescind the waiver and require the owner or operator to conduct a RA test of the CEMS as specified in Section 8.4 of Performance Specification 2.

[40 FR 46255, Oct. 6, 1975; 40 FR 59205, Dec. 22, 1975, as amended at 41 FR 35185, Aug. 20, 1976; 48 FR 13326, Mar. 30, 1983; 48 FR 23610, May 25, 1983; 48 FR 32986, July 20, 1983; 52 FR 9782, Mar. 26, 1987; 52 FR 17555, May 11, 1987; 52 FR 21007, June 4, 1987; 64 FR 7463, Feb. 12, 1999; 65 FR 48920, Aug. 10, 2000; 65 FR 61749, Oct. 17, 2000; 66 FR 44980, Aug. 27, 2001; 71 FR 31102, June 1, 2006; 72 FR 32714, June 13, 2007]

EDITORIAL NOTE: At 65 FR 61749, Oct. 17, 2000, § 60.13 was amended by revising the words “ng/J of pollutant” to read “ng of pollutant per J of heat input” in the sixth sentence of paragraph (h). However, the amendment could not be incorporated because the words “ng/J of pollutant” do not exist in the sixth sentence of paragraph (h).

#### **§ 60.14 Modification.**

(a) Except as provided under paragraphs (e) and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.

(b) Emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable. The Administrator shall use the following to determine emission rate:

(1) Emission factors as specified in the latest issue of "Compilation of Air Pollutant Emission Factors," EPA Publication No. AP-42, or other emission factors determined by the Administrator to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrates that the emission level resulting from the physical or operational change will either clearly increase or clearly not increase.

(2) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in paragraph (b)(1) of this section does not demonstrate to the Administrator's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Administrator's satisfaction that there are reasonable grounds to dispute the result obtained by the Administrator utilizing emission factors as referenced in paragraph (b)(1) of this section. When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in appendix C of this part shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

(c) The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this part any other facility within that source.

(d) [Reserved]

(e) The following shall not, by themselves, be considered modifications under this part:

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of paragraph (c) of this section and § 60.15.

(2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.

(3) An increase in the hours of operation.

(4) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, as provided by § 60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.

(5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Administrator determines to be less environmentally beneficial.

(6) The relocation or change in ownership of an existing facility.

(f) Special provisions set forth under an applicable subpart of this part shall supersede any conflicting provisions of this section.

(g) Within 180 days of the completion of any physical or operational change subject to the control measures specified in paragraph (a) of this section, compliance with all applicable standards must be

achieved.

(h) No physical change, or change in the method of operation, at an existing electric utility steam generating unit shall be treated as a modification for the purposes of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the 5 years prior to the change.

(i) Repowering projects that are awarded funding from the Department of Energy as permanent clean coal technology demonstration projects (or similar projects funded by EPA) are exempt from the requirements of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the five years prior to the change.

(j)(1) Repowering projects that qualify for an extension under section 409(b) of the Clean Air Act are exempt from the requirements of this section, provided that such change does not increase the actual hourly emissions of any pollutant regulated under this section above the actual hourly emissions achievable at that unit during the 5 years prior to the change.

(2) This exemption shall not apply to any new unit that:

(i) Is designated as a replacement for an existing unit;

(ii) Qualifies under section 409(b) of the Clean Air Act for an extension of an emission limitation compliance date under section 405 of the Clean Air Act; and

(iii) Is located at a different site than the existing unit.

(k) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project is exempt from the requirements of this section. A *temporary clean coal control technology demonstration project*, for the purposes of this section is a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State implementation plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(l) The reactivation of a very clean coal-fired electric utility steam generating unit is exempt from the requirements of this section.

[40 FR 58419, Dec. 16, 1975, as amended at 43 FR 34347, Aug. 3, 1978; 45 FR 5617, Jan. 23, 1980; 57 FR 32339, July 21, 1992; 65 FR 61750, Oct. 17, 2000]

### **§ 60.15 Reconstruction.**

(a) An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.

(b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and

(2) It is technologically and economically feasible to meet the applicable standards set forth in this part.

(c) "Fixed capital cost" means the capital needed to provide all the depreciable components.

(d) If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to

construct a comparable entirely new facility, he shall notify the Administrator of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:

- (1) Name and address of the owner or operator.
  - (2) The location of the existing facility.
  - (3) A brief description of the existing facility and the components which are to be replaced.
  - (4) A description of the existing air pollution control equipment and the proposed air pollution control equipment.
  - (5) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.
  - (6) The estimated life of the existing facility after the replacements.
  - (7) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.
- (e) The Administrator will determine, within 30 days of the receipt of the notice required by paragraph (d) of this section and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.
- (f) The Administrator's determination under paragraph (e) shall be based on:
- (1) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;
  - (2) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;
  - (3) The extent to which the components being replaced cause or contribute to the emissions from the facility; and
  - (4) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.
- (g) Individual subparts of this part may include specific provisions which refine and delimit the concept of reconstruction set forth in this section.

[40 FR 58420, Dec. 16, 1975]

#### **§ 60.16 Priority list.**

##### **PRIORITIZED MAJOR SOURCE CATEGORIES**

| <b>Priority Number <sup>1</sup></b> | <b>Source Category</b>                                                                                                       |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 1.                                  | Synthetic Organic Chemical Manufacturing Industry (SOCMI) and Volatile Organic Liquid Storage Vessels and Handling Equipment |
|                                     | (a) SOCMI unit processes                                                                                                     |
|                                     | (b) Volatile organic liquid (VOL) storage vessels and handling equipment                                                     |
|                                     | (c) SOCMI fugitive sources                                                                                                   |
|                                     | (d) SOCMI secondary sources                                                                                                  |

|     |                                                                     |
|-----|---------------------------------------------------------------------|
| 2.  | Industrial Surface Coating: Cans                                    |
| 3.  | Petroleum Refineries: Fugitive Sources                              |
| 4.  | Industrial Surface Coating: Paper                                   |
| 5.  | Dry Cleaning                                                        |
|     | (a) Perchloroethylene                                               |
|     | (b) Petroleum solvent                                               |
| 6.  | Graphic Arts                                                        |
| 7.  | Polymers and Resins: Acrylic Resins                                 |
| 8.  | Mineral Wool (Deleted)                                              |
| 9.  | Stationary Internal Combustion Engines                              |
| 10. | Industrial Surface Coating: Fabric                                  |
| 11. | Industrial-Commercial-Institutional Steam Generating Units.         |
| 12. | Incineration: Non-Municipal (Deleted)                               |
| 13. | Non-Metallic Mineral Processing                                     |
| 14. | Metallic Mineral Processing                                         |
| 15. | Secondary Copper (Deleted)                                          |
| 16. | Phosphate Rock Preparation                                          |
| 17. | Foundries: Steel and Gray Iron                                      |
| 18. | Polymers and Resins: Polyethylene                                   |
| 19. | Charcoal Production                                                 |
| 20. | Synthetic Rubber                                                    |
|     | (a) Tire manufacture                                                |
|     | (b) SBR production                                                  |
| 21. | Vegetable Oil                                                       |
| 22. | Industrial Surface Coating: Metal Coil                              |
| 23. | Petroleum Transportation and Marketing                              |
| 24. | By-Product Coke Ovens                                               |
| 25. | Synthetic Fibers                                                    |
| 26. | Plywood Manufacture                                                 |
| 27. | Industrial Surface Coating: Automobiles                             |
| 28. | Industrial Surface Coating: Large Appliances                        |
| 29. | Crude Oil and Natural Gas Production                                |
| 30. | Secondary Aluminum                                                  |
| 31. | Potash (Deleted)                                                    |
| 32. | Lightweight Aggregate Industry: Clay, Shale, and Slate <sup>2</sup> |
| 33. | Glass                                                               |
| 34. | Gypsum                                                              |
| 35. | Sodium Carbonate                                                    |
| 36. | Secondary Zinc (Deleted)                                            |
| 37. | Polymers and Resins: Phenolic                                       |
| 38. | Polymers and Resins: Urea-Melamine                                  |
| 39. | Ammonia (Deleted)                                                   |
| 40. | Polymers and Resins: Polystyrene                                    |
| 41. | Polymers and Resins: ABS-SAN Resins                                 |
| 42. | Fiberglass                                                          |
| 43. | Polymers and Resins: Polypropylene                                  |
| 44. | Textile Processing                                                  |



|                                                          |                                                    |
|----------------------------------------------------------|----------------------------------------------------|
| 45.                                                      | Asphalt Processing and Asphalt Roofing Manufacture |
| 46.                                                      | Brick and Related Clay Products                    |
| 47.                                                      | Ceramic Clay Manufacturing (Deleted)               |
| 48.                                                      | Ammonium Nitrate Fertilizer                        |
| 49.                                                      | Castable Refractories (Deleted)                    |
| 50.                                                      | Borax and Boric Acid (Deleted)                     |
| 51.                                                      | Polymers and Resins: Polyester Resins              |
| 52.                                                      | Ammonium Sulfate                                   |
| 53.                                                      | Starch                                             |
| 54.                                                      | Perlite                                            |
| 55.                                                      | Phosphoric Acid: Thermal Process (Deleted)         |
| 56.                                                      | Uranium Refining                                   |
| 57.                                                      | Animal Feed Defluorination (Deleted)               |
| 58.                                                      | Urea (for fertilizer and polymers)                 |
| 59.                                                      | Detergent (Deleted)                                |
| <i>Other Source Categories</i>                           |                                                    |
| Lead acid battery manufacture <sup>3</sup>               |                                                    |
| Organic solvent cleaning <sup>3</sup>                    |                                                    |
| Industrial surface coating: metal furniture <sup>3</sup> |                                                    |
| Stationary gas turbines <sup>4</sup>                     |                                                    |
| Municipal solid waste landfills <sup>4</sup>             |                                                    |
|                                                          |                                                    |

<sup>1</sup> Low numbers have highest priority, e.g., No. 1 is high priority, No. 59 is low priority.

<sup>2</sup> Formerly titled "Sintering: Clay and Fly Ash".

<sup>3</sup> Minor source category, but included on list since an NSPS is being developed for that source category.

<sup>4</sup> Not prioritized, since an NSPS for this major source category has already been promulgated.

[47 FR 951, Jan. 8, 1982, as amended at 47 FR 31876, July 23, 1982; 51 FR 42796, Nov. 25, 1986; 52 FR 11428, Apr. 8, 1987; 61 FR 9919, Mar. 12, 1996]

## § 60.17 Incorporations by reference.

The materials listed below are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register on the date listed. These materials are incorporated as they exist on the date of the approval, and a notice of any change in these materials will be published in the FEDERAL REGISTER. The materials are available for purchase at the corresponding address noted below, and all are available for inspection at the Library (C267-01), U.S. EPA, Research Triangle Park, NC or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(a) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959, Telephone (610) 832-9585, and are also available at the following Web site: <http://www.astm.org>; or ProQuest, 789 East Eisenhower Parkway, Ann Arbor, MI 48106-1346,

Telephone (734) 761-4700, and are also available at the following Web site: <http://www.proquest.com> .

(1) ASTM A99-76, 82 (Reapproved 1987), Standard Specification for Ferromanganese, incorporation by reference (IBR) approved for § 60.261.

(2) ASTM A100-69, 74, 93, Standard Specification for Ferrosilicon, IBR approved for § 60.261.

(3) ASTM A101-73, 93, Standard Specification for Ferrochromium, IBR approved for § 60.261.

(4) ASTM A482-76, 93, Standard Specification for Ferrochromesilicon, IBR approved for § 60.261.

(5) ASTM A483-64, 74 (Reapproved 1988), Standard Specification for Silicomanganese, IBR approved for § 60.261.

(6) ASTM A495-76, 94, Standard Specification for Calcium-Silicon and Calcium Manganese-Silicon, IBR approved for § 60.261.

(7) ASTM D86-96, Standard Test Method for Distillation of Petroleum Products (Approved April 10, 1996), IBR approved for §§ 60.562-2(d), 60.593(d), 60.593a(d), 60.633(h) and 60.5401(f).

(8) ASTM D129-64, 78, 95, 00, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved for §§ 60.106(j)(2), 60.335(b)(10)(i), and appendix A: Method 19, 12.5.2.2.3.

(9) ASTM D129-00 (Reapproved 2005), Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved for § 60.4415(a)(1)(i).

(10) ASTM D240-76, 92, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, IBR approved for §§ 60.46(c), 60.296(b), and appendix A: Method 19, Section 12.5.2.2.3.

(11) ASTM D270-65, 75, Standard Method of Sampling Petroleum and Petroleum Products, IBR approved for appendix A: Method 19, Section 12.5.2.2.1.

(12) ASTM D323-82, 94, Test Method for Vapor Pressure of Petroleum Products (Reid Method), IBR approved for §§ 60.111(l), 60.111a(g), 60.111b(g), and 60.116b(f)(2)(ii).

(13) ASTM D388-77, 90, 91, 95, 98a, 99 (Reapproved 2004) <sup>e1</sup>, Standard Specification for Classification of Coals by Rank, IBR approved for §§ 60.24(h)(8), 60.41 of subpart D of this part, 60.45(f)(4)(i), 60.45(f)(4)(ii), 60.45(f)(4)(vi), 60.41Da of subpart Da of this part, 60.41b of subpart Db of this part, 60.41c of subpart Dc of this part, 60.251 of subpart Y of this part, and 60.4102.

(14) ASTM D396-78, 89, 90, 92, 96, 98, Standard Specification for Fuel Oils, IBR approved for §§ 60.41b of subpart Db of this part, 60.41c of subpart Dc of this part, 60.111(b) of subpart K of this part, and 60.111a(b) of subpart Ka of this part.

(15) ASTM D975-78, 96, 98a, Standard Specification for Diesel Fuel Oils, IBR approved for §§ 60.111(b) of subpart K of this part and 60.111a(b) of subpart Ka of this part.

(16) ASTM D975-08a, Standard Specification for Diesel Fuel Oils, IBR approved for §§ 60.41b of subpart Db of this part and 60.41c of subpart Dc of this part.

(17) ASTM D1072-80, 90 (Reapproved 1994), Standard Test Method for Total Sulfur in Fuel Gases, IBR approved for § 60.335(b)(10)(ii).

(18) ASTM D1072-90 (Reapproved 1999), Standard Test Method for Total Sulfur in Fuel Gases, IBR approved for § 60.4415(a)(1)(ii).

(19) ASTM D1137-53, 75, Standard Method for Analysis of Natural Gases and Related Types of Gaseous Mixtures by the Mass Spectrometer, IBR approved for § 60.45(f)(5)(i).

(20) ASTM D1193-77, 91, Standard Specification for Reagent Water, IBR approved for appendix A: Method 5, Section 7.1.3; Method 5E, Section 7.2.1; Method 5F, Section 7.2.1; Method 6, Section 7.1.1; Method 7, Section 7.1.1; Method 7C, Section 7.1.1; Method 7D, Section 7.1.1; Method 10A, Section 7.1.1; Method 11, Section 7.1.3; Method 12, Section 7.1.3; Method 13A, Section 7.1.2; Method 26, Section 7.1.2; Method 26A, Section 7.1.2; and Method 29, Section 7.2.2.

(21) ASTM D1266-87, 91, 98, Standard Test Method for Sulfur in Petroleum Products (Lamp Method), IBR approved for §§ 60.106(j)(2) and 60.335(b)(10)(i).

(22) ASTM D1266-98 (Reapproved 2003)e1, Standard Test Method for Sulfur in Petroleum Products (Lamp Method), IBR approved for § 60.4415(a)(1)(i).

(23) ASTM D1475-60 (Reapproved 1980), 90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for § 60.435(d)(1), appendix A: Method 24, Section 6.1; and Method 24A, Sections 6.5 and 7.1.

(24) ASTM D1552-83, 95, 01, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved for §§ 60.106(j)(2), 60.335(b)(10)(i), and appendix A: Method 19, Section 12.5.2.2.3.

(25) ASTM D1552-03, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved for § 60.4415(a)(1)(i).

(26) ASTM D1826-77, 94, Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, IBR approved for §§ 60.45(f)(5)(ii), 60.46(c)(2), 60.296(b)(3), and appendix A: Method 19, Section 12.3.2.4.

(27) ASTM D1835-87, 91, 97, 03a, Standard Specification for Liquefied Petroleum (LP) Gases, IBR approved for §§ 60.41Da of subpart Da of this part, 60.41b of subpart Db of this part, and 60.41c of subpart Dc of this part.

(28) ASTM D1945-64, 76, 91, 96, Standard Method for Analysis of Natural Gas by Gas Chromatography, IBR approved for § 60.45(f)(5)(i).

(29) ASTM D1946-77, 90 (Reapproved 1994), Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for §§ 60.18(f)(3), 60.45(f)(5)(i), 60.564(f)(1), 60.614(e)(2)(ii), 60.614(e)(4), 60.664(e)(2)(ii), 60.664(e)(4), 60.704(d)(2)(ii), and 60.704(d)(4).

(30) ASTM D2013-72, 86, Standard Method of Preparing Coal Samples for Analysis, IBR approved for appendix A: Method 19, Section 12.5.2.1.3.

(31) ASTM D2015-77 (Reapproved 1978), 96, Standard Test Method for Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, IBR approved for § 60.45(f)(5)(ii), 60.46(c)(2), and appendix A: Method 19, Section 12.5.2.1.3.

(32) ASTM D2016-74, 83, Standard Test Methods for Moisture Content of Wood, IBR approved for appendix A: Method 28, Section 16.1.1.

(33) ASTM D2234-76, 96, 97b, 98, Standard Methods for Collection of a Gross Sample of Coal, IBR approved for appendix A: Method 19, Section 12.5.2.1.1.

(34) ASTM D2369-81, 87, 90, 92, 93, 95, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A: Method 24, Section 6.2.

(35) ASTM D2382-76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for §§ 60.18(f)(3), 60.485(g)(6), 60.485a(g)(6), 60.564(f)(3), 60.614(e)(4), 60.664(e)(4), and 60.704(d)(4).

(36) ASTM D2504-67, 77, 88 (Reapproved 1993), Noncondensable Gases in C3 and Lighter Hydrocarbon Products by Gas Chromatography, IBR approved for §§ 60.485(g)(5) and 60.485a(g)(5).

(37) ASTM D2584-68 (Reapproved 1985), 94, Standard Test Method for Ignition Loss of Cured Reinforced Resins, IBR approved for § 60.685(c)(3)(i).

(38) ASTM D2597-94 (Reapproved 1999), Standard Test Method for Analysis of Demethanized Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Gas Chromatography, IBR approved for § 60.335(b)(9)(i).

(39) ASTM D2622-87, 94, 98, Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry, IBR approved for §§ 60.106(j)(2) and 60.335(b)(10)(i).

(40) ASTM D2622-05, Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry, IBR approved for § 60.4415(a)(1)(i).

(41) ASTM D2879-83, 96, 97, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for §§ 60.111b(f)(3), 60.116b(e)(3)(ii), 60.116b(f)(2)(i), 60.485(e)(1), and 60.485a(e)(1).

(42) ASTM D2880-78, 96, Standard Specification for Gas Turbine Fuel Oils, IBR approved for §§ 60.111(b), 60.111a(b), and 60.335(d).

(43) ASTM D2908-74, 91, Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, IBR approved for § 60.564(j).

(44) ASTM D2986-71, 78, 95a, Standard Method for Evaluation of Air, Assay Media by the Monodisperse DOP (Diocetyl Phthalate) Smoke Test, IBR approved for appendix A: Method 5, Section 7.1.1.; Method 12, Section 7.1.1.; and Method 13A, Section 7.1.1.2.

(45) ASTM D3173-73, 87, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, IBR approved for appendix A: Method 19, Section 12.5.2.1.3.

(46) ASTM D3176-74, 89, Standard Method for Ultimate Analysis of Coal and Coke, IBR approved for § 60.45(f)(5)(i) and appendix A: Method 19, Section 12.3.2.3.

(47) ASTM D3177-75, 89, Standard Test Method for Total Sulfur in the Analysis Sample of Coal and Coke, IBR approved for appendix A: Method 19, Section 12.5.2.1.3.

(48) ASTM D3178-73 (Reapproved 1979), 89, Standard Test Methods for Carbon and Hydrogen in the Analysis Sample of Coal and Coke, IBR approved for § 60.45(f)(5)(i).

(49) ASTM D3246-81, 92, 96, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry, IBR approved for § 60.335(b)(10)(ii).

(50) ASTM D3246-05, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry, IBR approved for § 60.4415(a)(1)(ii).

(51) ASTM D3270-73T, 80, 91, 95, Standard Test Methods for Analysis for Fluoride Content of the Atmosphere and Plant Tissues (Semiautomated Method), IBR approved for appendix A: Method 13A, Section 16.1.

(52) ASTM D3286-85, 96, Standard Test Method for Gross Calorific Value of Coal and Coke by the

Isoperibol Bomb Calorimeter, IBR approved for appendix A: Method 19, Section 12.5.2.1.3.

(53) ASTM D3370-76, 95a, Standard Practices for Sampling Water, IBR approved for § 60.564(j).

(54) ASTM D3792-79, 91, Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for appendix A: Method 24, Section 6.3.

(55) ASTM D4017-81, 90, 96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A: Method 24, Section 6.4.

(56) ASTM D4057-81, 95, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for appendix A: Method 19, Section 12.5.2.2.3.

(57) ASTM D4057-95 (Reapproved 2000), Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for § 60.4415(a)(1).

(58) ASTM D4084-82, 94, Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), IBR approved for § 60.334(h)(1).

(59) ASTM D4084-05, Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), IBR approved for §§ 60.4360 and 60.4415(a)(1)(ii).

(60) ASTM D4177-95, Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, IBR approved for appendix A: Method 19, Section 12.5.2.2.1.

(61) ASTM D4177-95 (Reapproved 2000), Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, IBR approved for § 60.4415(a)(1).

(62) ASTM D4239-85, 94, 97, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, IBR approved for appendix A: Method 19, Section 12.5.2.1.3.

(63) ASTM D4294-02, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, IBR approved for § 60.335(b)(10)(i).

(64) ASTM D4294-03, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, IBR approved for § 60.4415(a)(1)(i).

(65) ASTM D4442-84, 92, Standard Test Methods for Direct Moisture Content Measurement in Wood and Wood-base Materials, IBR approved for appendix A: Method 28, Section 16.1.1.

(66) ASTM D4444-92, Standard Test Methods for Use and Calibration of Hand-Held Moisture Meters, IBR approved for appendix A: Method 28, Section 16.1.1.

(67) ASTM D4457-85 (Reapproved 1991), Test Method for Determination of Dichloromethane and 1, 1, 1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph, IBR approved for appendix A: Method 24, Section 6.5.

(68) ASTM D4468-85 (Reapproved 2000), Standard Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry, IBR approved for §§ 60.335(b)(10)(ii) and 60.4415(a)(1)(ii).

(69) ASTM D4629-02, Standard Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons by Syringe/Inlet Oxidative Combustion and Chemiluminescence Detection, IBR approved for §§ 60.49b(e) and 60.335(b)(9)(i).

(70) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for §§ 60.18(f)(3), 60.485(g)(6), 60.485a(g)(6),

60.564(f)(3), 60.614(d)(4), 60.664(e)(4), and 60.704(d)(4).

(71) ASTM D4810-88 (Reapproved 1999), Standard Test Method for Hydrogen Sulfide in Natural Gas Using Length of Stain Detector Tubes, IBR approved for §§ 60.4360 and 60.4415(a)(1)(ii).

(72) ASTM D5287-97 (Reapproved 2002), Standard Practice for Automatic Sampling of Gaseous Fuels, IBR approved for § 60.4415(a)(1).

(73) ASTM D5403-93, Standard Test Methods for Volatile Content of Radiation Curable Materials, IBR approved for appendix A: Method 24, Section 6.6.

(74) ASTM D5453-00, Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence, IBR approved for § 60.335(b)(10)(i).

(75) ASTM D5453-05, Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence, IBR approved for § 60.4415(a)(1)(i).

(76) ASTM D5504-01, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence, IBR approved for §§ 60.334(h)(1) and 60.4360.

(77) ASTM D5762-02, Standard Test Method for Nitrogen in Petroleum and Petroleum Products by Boat-Inlet Chemiluminescence, IBR approved for § 60.335(b)(9)(i).

(78) ASTM D5865-98, Standard Test Method for Gross Calorific Value of Coal and Coke, IBR approved for § 60.45(f)(5)(ii), 60.46(c)(2), and appendix A: Method 19, Section 12.5.2.1.3.

(79) ASTM D6216-98, Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications, IBR approved for appendix B, Performance Specification 1.

(80) ASTM D6228-98, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection, IBR approved for § 60.334(h)(1).

(81) ASTM D6228-98 (Reapproved 2003), Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection, IBR approved for §§ 60.4360 and 60.4415.

(82) ASTM D6348-03, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, approved October 1, 2003, IBR approved for § 60.73a(b) of subpart Ga of this part, table 7 of subpart IIII of this part, and table 2 of subpart JJJJ of this part.

(83) ASTM D6366-99, Standard Test Method for Total Trace Nitrogen and Its Derivatives in Liquid Aromatic Hydrocarbons by Oxidative Combustion and Electrochemical Detection, IBR approved for § 60.335(b)(9)(i).

(84) ASTM D6420-99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, (Approved October 1, 2004), IBR approved for § 60.107a(d) of subpart Ja and table 2 of subpart JJJJ of this part.

(85) ASTM D6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for § 60.335(a).

(86) ASTM D6522-00 (Reapproved 2005), Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired

Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers (Approved October 1, 2005), IBR approved for table 2 of subpart JJJJ of this part, and §§ 60.5413(b) and (d).

(87) ASTM D6667-01, Standard Test Method for Determination of Total Volatile Sulfur in Gaseous Hydrocarbons and Liquefied Petroleum Gases by Ultraviolet Fluorescence, IBR approved for § 60.335(b)(10)(ii).

(88) ASTM D6667-04, Standard Test Method for Determination of Total Volatile Sulfur in Gaseous Hydrocarbons and Liquefied Petroleum Gases by Ultraviolet Fluorescence, IBR approved for § 60.4415(a)(1)(ii).

(89) ASTM D6784-02, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), IBR approved for appendix B to part 60, Performance Specification 12A, Section 8.6.2.

(90) ASTM D6784-02, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), IBR approved for Appendix B to part 60, Performance Specification 12A, Section 8.6.2 and § 60.56c(b)(13) of subpart Ec of this part.

(91) ASTM E169-93, Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis (Approved May 15, 1993), IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), 60.632(f) and 60.5400(f).

(92) ASTM E260-96, Standard Practice for Packed Column Gas Chromatography (Approved April 10, 1996), IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), 60.632(f), 60.5400(f) and 60.5406(b).

(93) ASTM D6784-02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008, IBR approved for §§ 60.2165(j), 60.2730(j), tables 1, 5, 6 and 8 to subpart CCCC, and tables 2, 6, 7, and 9 to subpart DDDD, §§ 60.4900(b)(4)(v), 60.5220(b)(4)(v), tables 1 and 2 to subpart LLLL, and tables 2 and 3 to subpart MMMM.

(94) ASTM D5865-10 (Approved January 1, 2010), Standard Test Method for Gross Calorific Value of Coal and Coke, IBR approved for § 60.45(f)(5)(ii), § 60.46(c)(2), and appendix A-7 to part 60, Method 19, section 12.5.2.1.3.

(95) ASTM D3588-98 (Reapproved 2003), Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels, (Approved May 10, 2003), IBR approved for §§ 60.107a(d) and 60.5413(d).

(96) ASTM D4891-89 (Reapproved 2006), Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion, (Approved June 1, 2006), IBR approved for §§ 60.107a(d) and 60.5413(d).

(97) ASTM D1945-03 (Reapproved 2010), Standard Method for Analysis of Natural Gas by Gas Chromatography, (Approved January 1, 2010), IBR approved for §§ 60.107a(d) and 60.5413(d).

(98) ASTM D5504-08, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence, (Approved June 15, 2008), IBR approved for §§ 60.107a(e) and 60.5413(d).

(99) ASTM E1584-11, Standard Test Method for Assay of Nitric Acid, approved August 1, 2011, IBR approved for § 60.73a(c) of subpart Ga of this part.

(100) ASTM D4468-85 (Reapproved 2006), Standard Test Method for Total Sulfur in Gaseous Fuels

by Hydrogenolysis and Rateometric Colorimetry (Approved June 1, 2006), IBR approved for § 60.107a(e).

(101) ASTM D240-02 (Reapproved 2007), Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, (Approved May 1, 2007), IBR approved for § 60.107a(d).

(102) ASTM D1826-94 (Reapproved 2003), Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, (Approved May 10, 2003), IBR approved for § 60.107a(d).

(103) ASTM D1946-90 (Reapproved 2006), Standard Method for Analysis of Reformed Gas by Gas Chromatography, (Approved June 1, 2006), IBR approved for § 60.107a(d).

(104) ASTM D4809-06, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), (Approved December 1, 2006), IBR approved for § 60.107a(d).

(105) ASTM UOP539-97, Refinery Gas Analysis by Gas Chromatography, (Copyright 1997), IBR approved for § 60.107a(d).

(106) ASTM D3699-08, Standard Specification for Kerosine, including Appendix X1, (Approved September 1, 2008), IBR approved for §§ 60.41b of subpart Db and 60.41c of subpart Dc of this part.

(107) ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, including Appendices X1 through X3, (Approved July 15, 2011), IBR approved for §§ 60.41b of subpart Db and 60.41c of subpart Dc of this part.

(108) ASTM D7467-10, Standard Specification for Diesel Fuel Oil, Biodiesel Blend (B6 to B20), including Appendices X1 through X3, (Approved August 1, 2010), IBR approved for §§ 60.41b of subpart Db and 60.41c of subpart Dc of this part.

(b) The following material is available for purchase from the Association of Official Analytical Chemists, 1111 North 19th Street, Suite 210, Arlington, VA 22209.

(1) AOAC Method 9, Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12, IBR approved January 27, 1983 for §§ 60.204(b)(3), 60.214(b)(3), 60.224(b)(3), 60.234(b)(3).

(c) The following material is available for purchase from the American Petroleum Institute, 1220 L Street NW., Washington, DC 20005.

(1) API Publication 2517, Evaporation Loss from External Floating Roof Tanks, Second Edition, February 1980, IBR approved January 27, 1983, for §§ 60.111(i), 60.111a(f), 60.111a(f)(1) and 60.116b(e)(2)(i).

(2) American Petroleum Institute (API) Manual of Petroleum Measurement Standards, Chapter 22-Testing Protocol, Section 2-Differential Pressure Flow Measurement Devices, First Edition, August 2005, IBR approved for § 60.107a(d) of subpart Ja of this part.

(d) The following material is available for purchase from the Technical Association of the Pulp and Paper Industry (TAPPI), Dunwoody Park, Atlanta, GA 30341.

(1) TAPPI Method T624 os-68, IBR approved January 27, 1983 for § 60.285(d)(3).

(e) The following material is available for purchase from the Water Pollution Control Federation (WPCF), 2626 Pennsylvania Avenue NW., Washington, DC 20037.

(1) Method 209A, Total Residue Dried at 103-105 °C, in Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980, IBR approved February 25, 1985 for § 60.683(b).



(f) The following material is available for purchase from the following address: Underwriter's Laboratories, Inc. (UL), 333 Pfingsten Road, Northbrook, IL 60062.

(1) UL 103, Sixth Edition revised as of September 3, 1986, Standard for Chimneys, Factory-built, Residential Type and Building Heating Appliance.

(g) The following material is available for purchase from the following address: West Coast Lumber Inspection Bureau, 6980 SW. Barnes Road, Portland, OR 97223.

(1) West Coast Lumber Standard Grading Rules No. 16, pages 5-21 and 90 and 91, September 3, 1970, revised 1984.

(h) The following material is available for purchase from the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990, Telephone (800) 843-2763, and are also available at the following Web site: <http://www.asme.org>.

(1) ASME QRO-1-1994, Standard for the Qualification and Certification of Resource Recovery Facility Operators, IBR approved for §§ 60.56a, 60.54b(a), 60.54b(b), 60.1185(a), 60.1185(c)(2), 60.1675(a), and 60.1675(c)(2).

(2) ASME PTC 4.1-1964 (Reaffirmed 1991), Power Test Codes: Test Code for Steam Generating Units (with 1968 and 1969 Addenda), IBR approved for §§ 60.46b of subpart Db of this part, 60.58a(h)(6)(ii), 60.58b(i)(6)(ii), 60.1320(a)(3) and 60.1810(a)(3).

(3) ASME Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th Edition (1971), IBR approved for §§ 60.58a(h)(6)(ii), 60.58b(i)(6)(ii), 60.1320(a)(4), and 60.1810(a)(4).

(4) ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], IBR approved for § 60.56c(b)(4), § 60.63(f)(2) and (f)(4), § 60.106(e)(2), §§ 60.104a(d)(3), (d)(5), (d)(6), (h)(3), (h)(4), (h)(5), (i)(3), (i)(4), (i)(5), (j)(3), and (j)(4), § 60.105a(d)(4), (f)(2), (f)(4), (g)(2), and (g)(4), § 60.106a(a)(1)(iii), (a)(2)(iii), (a)(2)(v), (a)(2)(viii), (a)(3)(ii), and (a)(3)(v), and § 60.107a(a)(1)(ii), (a)(1)(iv), (a)(2)(ii), (c)(2), (c)(4), and (d)(2), tables 1 and 3 of subpart EEEE, tables 2 and 4 of subpart FFFF, table 2 of subpart JJJJ, §§ 60.4415(a)(2) and (a)(3), 60.2145(s)(1)(i) and (ii), 60.2145(t)(1)(ii), 60.2145(t)(5)(i), 60.2710(s)(1)(i) and (ii), 60.2710(t)(1)(ii), 60.2710(t)(5)(i), 60.2710(w)(3), 60.2730(q)(3), 60.4900(b)(4)(vii) and (viii), 60.4900(b)(5)(i), 60.5220(b)(4)(vii) and (viii), 60.5220(b)(5)(i), tables 1 and 2 to subpart LLLL, and tables 2 and 3 to subpart MMMM.

(5) ASME MFC-3M-2004, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi, IBR approved for § 60.107a(d) of subpart Ja of this part.

(6) ANSI/ASME MFC-4M-1986 (Reaffirmed 2008), Measurement of Gas Flow by Turbine Meters, IBR approved for § 60.107a(d) of subpart Ja of this part.

(7) ANSI/ASME-MFC-5M-1985 (Reaffirmed 2006), Measurement of Liquid Flow in Closed Conduits Using Transit-Time Ultrasonic Flowmeters, IBR approved for § 60.107a(d) of subpart Ja of this part.

(8) ASME MFC-6M-1998 (Reaffirmed 2005), Measurement of Fluid Flow in Pipes Using Vortex Flowmeters, IBR approved for § 60.107a(d) of subpart Ja of this part.

(9) ASME/ANSI MFC-7M-1987 (Reaffirmed 2006), Measurement of Gas Flow by Means of Critical Flow Venturi Nozzles, IBR approved for § 60.107a(d) of subpart Ja of this part.

(10) ASME/ANSI MFC-9M-1988 (Reaffirmed 2006), Measurement of Liquid Flow in Closed Conduits by Weighing Method, IBR approved for § 60.107a(d) of subpart Ja of this part.

(11) ASME MFC-11M-2006, Measurement of Fluid Flow by Means of Coriolis Mass Flowmeters, IBR

approved for § 60.107a(d) of subpart Ja of this part.

(12) ASME MFC-14M-2003, Measurement of Fluid Flow Using Small Bore Precision Orifice Meters, IBR approved for § 60.107a(d) of subpart Ja of this part.

(13) ASME MFC-16-2007, Measurement of Liquid Flow in Closed Conduits with Electromagnetic Flowmeters, IBR approved for § 60.107a(d) of subpart Ja of this part.

(14) ASME MFC-18M-2001, Measurement of Fluid Flow Using Variable Area Meters, IBR approved for § 60.107a(d) of subpart Ja of this part.

(15) ASME MFC-22-2007, Measurement of Liquid by Turbine Flowmeters, IBR approved for § 60.107a(d) of subpart Ja of this part.

(j) "Standard Methods for the Examination of Water and Wastewater," 16th edition, 1985. Method 303F: "Determination of Mercury by the Cold Vapor Technique." This document may be obtained from the American Public Health Association, 1015 18th Street, NW., Washington, DC 20036, and is incorporated by reference for appendix A to part 60, Method 29, Sections 9.2.3; 10.3; and 11.1.3.

(k) This material is available for purchase from the American Hospital Association (AHA) Service, Inc., Post Office Box 92683, Chicago, Illinois 60675-2683. You may inspect a copy at EPA's Air and Radiation Docket and Information Center (Docket A-91-61, Item IV-J-124), Room M-1500, 1200 Pennsylvania Ave., NW., Washington, DC.

(1) An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities. American Society for Health Care Environmental Services of the American Hospital Association. Chicago, Illinois. 1993. AHA Catalog No. 057007. ISBN 0-87258-673-5. IBR approved for § 60.35e and § 60.55c.

(l) This material is available for purchase from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia 22161. You may inspect a copy at EPA's Air and Radiation Docket and Information Center (Docket A-91-61, Item IV-J-125), Room M-1500, 1200 Pennsylvania Ave., NW., Washington, DC.

(1) OMB Bulletin No. 93-17: Revised Statistical Definitions for Metropolitan Areas. Office of Management and Budget, June 30, 1993. NTIS No. PB 93-192-664. IBR approved for § 60.31e.

(2) [Reserved]

(m) This material is available for purchase from at least one of the following addresses: The Gas Processors Association, 6526 East 60th Street, Tulsa, OK, 74145; or Information Handling Services, 15 Inverness Way East, PO Box 1154, Englewood, CO 80150-1154. You may inspect a copy at EPA's Air and Radiation Docket and Information Center, Room B108, 1301 Constitution Ave., NW., Washington, DC 20460. You may inspect a copy at EPA's Air and Radiation Docket and Information Center, Room 3334, 1301 Constitution Ave., NW., Washington, DC 20460.

(1) Gas Processors Association Standard 2377-86, Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes, 1986 Revision, IBR approved for §§ 60.105(b)(1)(iv), 60.107a(b)(1)(iv), 60.334(h)(1), 60.4360, and 60.4415(a)(1)(ii).

(2) Gas Processors Association Standard 2172-09, Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures for Custody Transfer (2009), IBR approved for § 60.107a(d) of subpart Ja of this part.

(3) Gas Processors Association Standard 2261-00, Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography (2000), IBR approved for § 60.107a(d) of subpart Ja of this part.

(n) This material is available for purchase from IHS Inc., 15 Inverness Way East, Englewood, CO

80112.

(1) International Organization for Standards 8178-4: 1996(E), Reciprocating Internal Combustion Engines—Exhaust Emission Measurement—part 4: Test Cycles for Different Engine Applications, IBR approved for § 60.4241(b).

(2) [Reserved]

(o) The following material is available from the U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>.

(1) Office of Air Quality Planning and Standards (OAQPS) Fabric Filter Bag Leak Detection Guidance, EPA-454/R-98-015, September 1997, IBR approved for §§ 60.2145(r)(2), 60.2710(r)(2), 60.4905(b)(3)(i)(B), and 60.5225(b)(3)(i)(B).

(2) [Reserved]

(p) The following American Gas Association material is available for purchase from the following address: ILI Infodisk, 610 Winters Avenue, Paramus, New Jersey 07652:

(1) American Gas Association Report No. 3: Orifice Metering for Natural Gas and Other Related Hydrocarbon Fluids, Part 1: General Equations and Uncertainty Guidelines (1990), IBR approved for § 60.107a(d) of subpart Ja of this part.

(2) American Gas Association Report No. 3: Orifice Metering for Natural Gas and Other Related Hydrocarbon Fluids, Part 2: Specification and Installation Requirements (2000), IBR approved for § 60.107a(d) of subpart Ja of this part.

(3) American Gas Association Report No. 11: Measurement of Natural Gas by Coriolis Meter (2003), IBR approved for § 60.107a(d) of subpart Ja of this part.

(4) American Gas Association Transmission Measurement Committee Report No. 7: Measurement of Gas by Turbine Meters (Revised February 2006), IBR approved for § 60.107a(d) of subpart Ja of this part.

(q) The following material is available for purchase from the International Standards Organization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, +41 22 749 01 11, <http://www.iso.org/iso/home.htm> .

(1) ISO 8316: Measurement of Liquid Flow in Closed Conduits—Method by Collection of the Liquid in a Volumetric Tank (1987-10-01)—First Edition, IBR approved for § 60.107a(d) of subpart Ja of this part.

(2) [Reserved]

(r) The following material is available from the North American Electric Reliability Corporation, 3353 Peachtree Road NE., Suite 600, North Tower, Atlanta, GA 30326, <http://www.nerc.com> , and is available at the following Web site: [http://www.nerc.com/files/EOP-002-3\\_1.pdf](http://www.nerc.com/files/EOP-002-3_1.pdf) .

(1) North American Electric Reliability Corporation, Reliability Standards for the Bulk of Electric Systems of North America, Reliability Standard EOP-002-3, Capacity and Energy Emergencies, updated November 19, 2012, IBR approved for §§ 60.4211(f) and 60.4243(d).

(2) [Reserved]

[48 FR 3735, Jan. 27, 1983]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 60.17, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.fdsys.gov](http://www.fdsys.gov) .

EDITORIAL NOTE: At 77 FR 9446, Feb. 16, 2012, § 60.17 was amended; however, the amendment could not be incorporated because paragraph (a)(94) already existed.

## § 60.18 General control device and work practice requirements.

(a) *Introduction.* (1) This section contains requirements for control devices used to comply with applicable subparts of 40 CFR parts 60 and 61. The requirements are placed here for administrative convenience and apply only to facilities covered by subparts referring to this section.

(2) This section also contains requirements for an alternative work practice used to identify leaking equipment. This alternative work practice is placed here for administrative convenience and is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, Appendix A-7, Method 21 monitor.

(b) *Flares.* Paragraphs (c) through (f) apply to flares.

(c)(1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).

(3) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (c)(3)(ii) of this section and the maximum tip velocity specifications in paragraph (c)(4) of this section, or adhering to the requirements in paragraph (c)(3)(i) of this section.

(i)(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity,  $V_{\max}$ , as determined by the following equation:

$$V_{\max} = (X_{H_2} - K_1) * K_2$$

Where:

$V_{\max}$  = Maximum permitted velocity, m/sec.

$K_1$  = Constant, 6.0 volume-percent hydrogen.

$K_2$  = Constant, 3.9(m/sec)/volume-percent hydrogen.

$X_{H_2}$  = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 60.17).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (f)(4) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f)(3) of this section.

(4)(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4) of this section, less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (c)(4) (ii) and (iii) of this section.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity,  $V_{\max}$ , as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

(5) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{\max}$ , as determined by the method specified in paragraph (f)(6).

(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.

(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(f)(1) Method 22 of appendix A to this part shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

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where:

$H_T$  = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$$K = \frac{\text{Constant}}{1.740 \times 10^{-7}} \left( \frac{1}{\text{ppm}} \right) \left( \frac{\text{g mole}}{\text{scm}} \right) \left( \frac{\text{MJ}}{\text{kcal}} \right)$$

where the standard temperature for  $\left( \frac{\text{g mole}}{\text{scm}} \right)$  is 20°C;

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$C_i$  = Concentration of sample component  $i$  in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Reapproved 1994) (Incorporated by reference as specified in § 60.17); and

$H_i$  = Net heat of combustion of sample component  $i$ , kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.

(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of

standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

(5) The maximum permitted velocity,  $V_{\max}$ , for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.

$$\text{Log}_{10}(V_{\max}) = (H_T + 28.8) / 31.7$$

$V_{\max}$  = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant

$H_T$  = The net heating value as determined in paragraph (f)(3).

(6) The maximum permitted velocity,  $V_{\max}$ , for air-assisted flares shall be determined by the following equation.

$$V_{\max} = 8.706 + 0.7084 (H_T)$$

$V_{\max}$  = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

$H_T$  = The net heating value as determined in paragraph (f)(3).

(g) *Alternative work practice for monitoring equipment for leaks.* Paragraphs (g), (h), and (i) of this section apply to all equipment for which the applicable subpart requires monitoring with a 40 CFR part 60, Appendix A-7, Method 21 monitor, except for closed vent systems, equipment designated as leakless, and equipment identified in the applicable subpart as having no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. An owner or operator may use an optical gas imaging instrument instead of a 40 CFR part 60, Appendix A-7, Method 21 monitor. Requirements in the existing subparts that are specific to the Method 21 instrument do not apply under this section. All other requirements in the applicable subpart that are not addressed in paragraphs (g), (h), and (i) of this section apply to this standard. For example, equipment specification requirements, and non-Method 21 instrument recordkeeping and reporting requirements in the applicable subpart continue to apply. The terms defined in paragraphs (g)(1) through (5) of this section have meanings that are specific to the alternative work practice standard in paragraphs (g), (h), and (i) of this section.

(1) *Applicable subpart* means the subpart in 40 CFR parts 60, 61, 63, or 65 that requires monitoring of equipment with a 40 CFR part 60, Appendix A-7, Method 21 monitor.

(2) *Equipment* means pumps, valves, pressure relief valves, compressors, open-ended lines, flanges, connectors, and other equipment covered by the applicable subpart that require monitoring with a 40 CFR part 60, Appendix A-7, Method 21 monitor.

(3) *Imaging* means making visible emissions that may otherwise be invisible to the naked eye.

(4) *Optical gas imaging instrument* means an instrument that makes visible emissions that may otherwise be invisible to the naked eye.

(5) *Repair* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak.

(6) *Leak* means:

(i) Any emissions imaged by the optical gas instrument;

(ii) Indications of liquids dripping;

(iii) Indications by a sensor that a seal or barrier fluid system has failed; or

(iv) Screening results using a 40 CFR part 60, Appendix A-7, Method 21 monitor that exceed the leak definition in the applicable subpart to which the equipment is subject.

(h) The alternative work practice standard for monitoring equipment for leaks is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, Appendix A-7, Method 21 monitor.

(1) An owner or operator of an affected source subject to CFR parts 60, 61, 63, or 65 can choose to comply with the alternative work practice requirements in paragraph (i) of this section instead of using the 40 CFR part 60, Appendix A-7, Method 21 monitor to identify leaking equipment. The owner or operator must document the equipment, process units, and facilities for which the alternative work practice will be used to identify leaks.

(2) Any leak detected when following the leak survey procedure in paragraph (i)(3) of this section must be identified for repair as required in the applicable subpart.

(3) If the alternative work practice is used to identify leaks, re-screening after an attempted repair of leaking equipment must be conducted using either the alternative work practice or the 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subpart to which the equipment is subject.

(4) The schedule for repair is as required in the applicable subpart.

(5) When this alternative work practice is used for detecting leaking equipment, choose one of the monitoring frequencies listed in Table 1 to subpart A of this part in lieu of the monitoring frequency specified for regulated equipment in the applicable subpart. Reduced monitoring frequencies for good performance are not applicable when using the alternative work practice.

(6) When this alternative work practice is used for detecting leaking equipment the following are not applicable for the equipment being monitored:

(i) Skip period leak detection and repair;

(ii) Quality improvement plans; or

(iii) Complying with standards for allowable percentage of valves and pumps to leak.

(7) When the alternative work practice is used to detect leaking equipment, the regulated equipment in paragraph (h)(1)(i) of this section must also be monitored annually using a 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subpart. The owner or operator may choose the specific monitoring period (for example, first quarter) to conduct the annual monitoring. Subsequent monitoring must be conducted every 12 months from the initial period. Owners or operators must keep records of the annual Method 21 screening results, as specified in paragraph (i)(4)(vii) of this section.

(i) An owner or operator of an affected source who chooses to use the alternative work practice must comply with the requirements of paragraphs (i)(1) through (i)(5) of this section.

(1) Instrument Specifications. The optical gas imaging instrument must comply with the requirements in (i)(1)(i) and (i)(1)(ii) of this section.

(i) Provide the operator with an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check described in

paragraph (i)(2) of this section. The detection sensitivity level depends upon the frequency at which leak monitoring is to be performed.

(ii) Provide a date and time stamp for video records of every monitoring event.

(2) Daily Instrument Check. On a daily basis, and prior to beginning any leak monitoring work, test the optical gas imaging instrument at the mass flow rate determined in paragraph (i)(2)(i) of this section in accordance with the procedure specified in paragraphs (i)(2)(ii) through (i)(2)(iv) of this section for each camera configuration used during monitoring (for example, different lenses used), unless an alternative method to demonstrate daily instrument checks has been approved in accordance with paragraph (i)(2)(v) of this section.

(i) Calculate the mass flow rate to be used in the daily instrument check by following the procedures in paragraphs (i)(2)(i)(A) and (i)(2)(i)(B) of this section.

(A) For a specified population of equipment to be imaged by the instrument, determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, within the distance to be used in paragraph (i)(2)(iv)(B) of this section, at or below the standard detection sensitivity level.

(B) Multiply the standard detection sensitivity level, corresponding to the selected monitoring frequency in Table 1 of subpart A of this part, by the mass fraction of detectable chemicals from the stream identified in paragraph (i)(2)(i)(A) of this section to determine the mass flow rate to be used in the daily instrument check, using the following equation.

$$E_{dic} = (E_{sds}) \sum_{i=1}^k x_i$$

Where:

$E_{dic}$  = Mass flow rate for the daily instrument check, grams per hour

$x_i$  = Mass fraction of detectable chemical(s)  $i$  seen by the optical gas imaging instrument, within the distance to be used in paragraph (i)(2)(iv)(B) of this section, at or below the standard detection sensitivity level,  $E_{sds}$ .

$E_{sds}$  = Standard detection sensitivity level from Table 1 to subpart A, grams per hour

$k$  = Total number of detectable chemicals emitted from the leaking equipment and seen by the optical gas imaging instrument.

(ii) Start the optical gas imaging instrument according to the manufacturer's instructions, ensuring that all appropriate settings conform to the manufacturer's instructions.

(iii) Use any gas chosen by the user that can be viewed by the optical gas imaging instrument and that has a purity of no less than 98 percent.

(iv) Establish a mass flow rate by using the following procedures:

(A) Provide a source of gas where it will be in the field of view of the optical gas imaging instrument.

(B) Set up the optical gas imaging instrument at a recorded distance from the outlet or leak orifice of the flow meter that will not be exceeded in the actual performance of the leak survey. Do not exceed the operating parameters of the flow meter.

(C) Open the valve on the flow meter to set a flow rate that will create a mass emission rate equal to the mass rate specified in paragraph (i)(2)(i) of this section while observing the gas flow through the optical gas imaging instrument viewfinder. When an image of the gas emission is seen through the viewfinder at the required emission rate, make a record of the reading on the flow meter.



(v) Repeat the procedures specified in paragraphs (i)(2)(ii) through (i)(2)(iv) of this section for each configuration of the optical gas imaging instrument used during the leak survey.

(vi) To use an alternative method to demonstrate daily instrument checks, apply to the Administrator for approval of the alternative under § 60.13(i).

(3) Leak Survey Procedure. Operate the optical gas imaging instrument to image every regulated piece of equipment selected for this work practice in accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and are subject to repair. All emissions visible to the naked eye are also considered to be leaks and are subject to repair.

(4) Recordkeeping. You must keep the records described in paragraphs (i)(4)(i) through (i)(4)(vii) of this section:

(i) The equipment, processes, and facilities for which the owner or operator chooses to use the alternative work practice.

(ii) The detection sensitivity level selected from Table 1 to subpart A of this part for the optical gas imaging instrument.

(iii) The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, as specified in paragraph (i)(2)(i)(A) of this section.

(iv) The technical basis for the mass fraction of detectable chemicals used in the equation in paragraph (i)(2)(i)(B) of this section.

(v) The daily instrument check. Record the distance, per paragraph (i)(2)(iv)(B) of this section, and the flow meter reading, per paragraph (i)(2)(iv)(C) of this section, at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a time and date stamp for each daily instrument check. The video record must be kept for 5 years.

(vi) Recordkeeping requirements in the applicable subpart. A video record must be used to document the leak survey results. The video record must include a time and date stamp for each monitoring event. A video record can be used to meet the recordkeeping requirements of the applicable subparts if each piece of regulated equipment selected for this work practice can be identified in the video record. The video record must be kept for 5 years.

(vii) The results of the annual Method 21 screening required in paragraph (h)(7) of this section. Records must be kept for all regulated equipment specified in paragraph (h)(1) of this section. Records must identify the equipment screened, the screening value measured by Method 21, the time and date of the screening, and calibration information required in the existing applicable subpart.

(5) Reporting. Submit the reports required in the applicable subpart. Submit the records of the annual Method 21 screening required in paragraph (h)(7) of this section to the Administrator via e-mail to [CCG-AWP@EPA.GOV](mailto:CCG-AWP@EPA.GOV).

[51 FR 2701, Jan. 21, 1986, as amended at 63 FR 24444, May 4, 1998; 65 FR 61752, Oct. 17, 2000; 73 FR 78209, Dec. 22, 2008]

#### **§ 60.19 General notification and reporting requirements.**

(a) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word "calendar" is absent, unless otherwise specified in an applicable requirement.

(b) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be delivered or postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery, including the use of electronic media, agreed to by the permitting authority, is acceptable.

(c) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(d) If an owner or operator of an affected facility in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such facility under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. The allowance in the previous sentence applies in each State beginning 1 year after the affected facility is required to be in compliance with the applicable subpart in this part. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(e) If an owner or operator supervises one or more stationary sources affected by standards set under this part and standards set under part 61, part 63, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State with an approved permit program) a common schedule on which periodic reports required by each applicable standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the applicable subpart in this part, or 1 year after the stationary source is required to be in compliance with the applicable 40 CFR part 61 or part 63 of this chapter standard, whichever is latest. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(f)(1)(i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (f)(2) and (f)(3) of this section, the owner or operator of an affected facility remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (f)(2) and (f)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

[59 FR 12428, Mar. 16, 1994, as amended at 64 FR 7463, Feb. 12, 1998]

**Table 1 to Subpart A of Part 60-Detection Sensitivity Levels (grams per hour)**

| Monitoring frequency per subpart <sup>a</sup> | Detection sensitivity level |
|-----------------------------------------------|-----------------------------|
| Bi-Monthly                                    | 60                          |
| Semi-Quarterly                                | 85                          |
| Monthly                                       | 100                         |

<sup>a</sup> When this alternative work practice is used to identify leaking equipment, the owner or operator must choose one of the monitoring frequencies listed in this table in lieu of the monitoring frequency specified in the applicable subpart. Bi-monthly means every other month. Semi-quarterly means twice per quarter. Monthly means once per month.

[73 FR 78211, Dec. 22, 2008]

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## ELECTRONIC CODE OF FEDERAL REGULATIONS

**e-CFR Data is current as of December 17, 2012**

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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### Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

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#### Contents

- § 60.40c Applicability and delegation of authority.
  - § 60.41c Definitions.
  - § 60.42c Standard for sulfur dioxide (SO<sub>2</sub>).
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  - § 60.44c Compliance and performance test methods and procedures for sulfur dioxide.
  - § 60.45c Compliance and performance test methods and procedures for particulate matter.
  - § 60.46c Emission monitoring for sulfur dioxide.
  - § 60.47c Emission monitoring for particulate matter.
  - § 60.48c Reporting and recordkeeping requirements.
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SOURCE: 72 FR 32759, June 13, 2007, unless otherwise noted.

#### § 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, § 60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO<sub>2</sub>) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§ 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in § 60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under § 60.14.

(e) Affected facilities ( i.e. heat recovery steam generators and fuel heaters) that are associated with stationary combustion turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators, fuel heaters, and other affected facilities that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator, fuel heater, or other affected facility is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(f) Any affected facility that meets the applicability requirements of and is subject to subpart AAAA

or subpart CCCC of this part is not subject to this subpart.

(g) Any facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject to this subpart.

(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NO<sub>x</sub> standards under this subpart and the SO<sub>2</sub> standards under subpart J or subpart Ja of this part, as applicable.

(i) Temporary boilers are not subject to this subpart.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

### **§ 60.41c Definitions.**

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

*Annual capacity factor* means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

*Coal* means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

*Coal refuse* means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

*Combined cycle system* means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

*Combustion research* means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit ( *i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

*Conventional technology* means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrosulfurization technology.

*Distillate oil* means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17), diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see § 60.17), kerosine, as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see § 60.17), **biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see § 60.17), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see § 60.17).**

*Dry flue gas desulfurization technology* means a SO<sub>2</sub> control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

*Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

*Emerging technology* means any SO<sub>2</sub> control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under § 60.48c(a)(4).

*Federally enforceable* means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

*Fluidized bed combustion technology* means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

*Fuel pretreatment* means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

*Heat input* means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

*Heat transfer medium* means any material that is used to transfer heat from one point to another point.

*Maximum design heat input capacity* means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

***Natural gas means:***

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see § 60.17); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

*Noncontinental area* means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

*Oil* means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

*Potential sulfur dioxide emission rate* means the theoretical SO<sub>2</sub> emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

*Process heater* means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

*Residual oil* means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17).

*Steam generating unit* means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

*Steam generating unit operating day* means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

*Temporary boiler* means a steam generating unit that combusts natural gas or distillate oil with a potential SO<sub>2</sub> emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

- (1) The equipment is attached to a foundation.
- (2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.
- (3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
- (4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

*Wet flue gas desulfurization technology* means an SO<sub>2</sub> control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

*Wet scrubber system* means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO<sub>2</sub>.

*Wood* means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

#### **§ 60.42c Standard for sulfur dioxide (SO<sub>2</sub>).**

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20



lb/MMBtu) heat input or 10 percent (0.10) of the potential SO<sub>2</sub> emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO<sub>2</sub> emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO<sub>2</sub> emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO<sub>2</sub> emissions limit or the 90 percent SO<sub>2</sub> reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO<sub>2</sub> emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 50 percent (0.50) of the potential SO<sub>2</sub> emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO<sub>2</sub> reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/h) or less;

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area; or

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be



completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of the following:

(1) The percent of potential SO<sub>2</sub> emission rate or numerical SO<sub>2</sub> emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

- (i) Combusts coal in combination with any other fuel;
- (ii) Has a heat input capacity greater than 22 MW (75 MMBtu/h); and
- (iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E<sub>s</sub> = SO<sub>2</sub> emission limit, expressed in ng/J or lb/MMBtu heat input;

K<sub>a</sub> = 520 ng/J (1.2 lb/MMBtu);

K<sub>b</sub> = 260 ng/J (0.60 lb/MMBtu);

K<sub>c</sub> = 215 ng/J (0.50 lb/MMBtu);

H<sub>a</sub> = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H<sub>b</sub> = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H<sub>c</sub> = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO<sub>2</sub> emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

- (1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO<sub>2</sub> emission rate; and
- (2) Emissions from the pretreated fuel (without either combustion or post-combustion SO<sub>2</sub> control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), (3), or (4) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under § 60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(4) Other fuels-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(i) The SO<sub>2</sub> emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9462, Feb. 16, 2012]

#### **§ 60.43c Standard for particulate matter (PM).**

(a) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and

operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph (c).

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under § 60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO<sub>2</sub> emissions is not subject to the PM limit in this section.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 77 FR 9462, Feb. 16, 2012]

#### **§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.**

(a) Except as provided in paragraphs (g) and (h) of this section and § 60.8(b), performance tests required under § 60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under § 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO<sub>2</sub> emission limits under § 60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and § 60.8,

compliance with the percent reduction requirements and SO<sub>2</sub> emission limits under § 60.42c is based on the average percent reduction and the average SO<sub>2</sub> emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO<sub>2</sub> emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO<sub>2</sub> emission rate ( $E_{ho}$ ) and the 30-day average SO<sub>2</sub> emission rate ( $E_{ao}$ ). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate  $E_{ao}$  when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted  $E_{ho}$  ( $E_{ho\ o}$ ) is used in Equation 19-19 of Method 19 of appendix A of this part to compute the adjusted  $E_{ao}$  ( $E_{ao\ o}$ ). The  $E_{ho\ o}$  is computed using the following formula:

$$E_{ho\ o} = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

Where:

$E_{ho\ o}$  = Adjusted  $E_{ho}$ , ng/J (lb/MMBtu);

$E_{ho}$  = Hourly SO<sub>2</sub> emission rate, ng/J (lb/MMBtu);

$E_w$  = SO<sub>2</sub> concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value  $E_w$  for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure  $E_w$  if the owner or operator elects to assume  $E_w = 0$ .

$X_k$  = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of § 60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters  $E_w$  or  $X_k$  if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under § 60.42c(a) or (b) shall determine compliance with the SO<sub>2</sub> emission limits under § 60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO<sub>2</sub> emission rate is computed using the following formula:

$$\%P_s = 100 \left( 1 - \frac{\%R_g}{100} \right) \left( 1 - \frac{\%R_f}{100} \right)$$

Where:

$\%P_s$  = Potential SO<sub>2</sub> emission rate, in percent;

$\%R_g$  = SO<sub>2</sub> removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$  = SO<sub>2</sub> removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in

paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the %P<sub>s</sub>, an adjusted %R<sub>g</sub> (%R<sub>g</sub> o) is computed from E<sub>ao</sub> o from paragraph (e)(1) of this section and an adjusted average SO<sub>2</sub> inlet rate (E<sub>ai</sub> o) using the following formula:

$$\%R_{g\ o} = 100 \left( 1 - \frac{E_{ao\ o}}{E_{ai\ o}} \right)$$

Where:

%R<sub>g</sub> o = Adjusted %R<sub>g</sub>, in percent;

E<sub>ao</sub> o = Adjusted E<sub>ao</sub>, ng/J (lb/MMBtu); and

E<sub>ai</sub> o = Adjusted average SO<sub>2</sub> inlet rate, ng/J (lb/MMBtu).

(ii) To compute E<sub>ai</sub> o, an adjusted hourly SO<sub>2</sub> inlet rate (E<sub>hi</sub> o) is used. The E<sub>hi</sub> o is computed using the following formula:

$$E_{hi\ o} = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

E<sub>hi</sub> o = Adjusted E<sub>hi</sub>, ng/J (lb/MMBtu);

E<sub>hi</sub> = Hourly SO<sub>2</sub> inlet rate, ng/J (lb/MMBtu);

E<sub>w</sub> = SO<sub>2</sub> concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E<sub>w</sub> for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E<sub>w</sub> if the owner or operator elects to assume E<sub>w</sub> = 0; and

X<sub>k</sub> = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under § 60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under § 60.46c(d)(2).

(h) For affected facilities subject to § 60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO<sub>2</sub> standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in § 60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO<sub>2</sub> standards under § 60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO<sub>2</sub> emissions data in calculating %P<sub>s</sub> and E<sub>ho</sub> under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under § 60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %P<sub>s</sub> or E<sub>ho</sub> pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

**§ 60.45c Compliance and performance test methods and procedures for particulate matter.**

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under § 60.43c shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3A or 3B of appendix A-2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A-3 of this part or 17 of appendix A-6 of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O<sub>2</sub> or CO<sub>2</sub> measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A-4 of this part shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under § 60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated



24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with § 60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under § 60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under § 60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (c)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (c)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (c)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O<sub>2</sub> (or CO<sub>2</sub>) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and

(ii) For O<sub>2</sub> (or CO<sub>2</sub>), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in

accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in § 60.8, 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/ert\\_tool.html/](http://www.epa.gov/ttn/chief/ert/ert_tool.html/) ) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under § 60.43c(e)(4) shall follow the applicable procedures under § 60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/h).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9463, Feb. 16, 2012]

#### **§ 60.46c Emission monitoring for sulfur dioxide.**

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO<sub>2</sub> emission limits under § 60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO<sub>2</sub> concentrations and either O<sub>2</sub> or CO<sub>2</sub> concentrations at the outlet of the SO<sub>2</sub> control device (or the outlet of the steam generating unit if no SO<sub>2</sub> control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under § 60.42c shall measure SO<sub>2</sub> concentrations and either O<sub>2</sub> or CO<sub>2</sub> concentrations at both the inlet and outlet of the SO<sub>2</sub> control device.

(b) The 1-hour average SO<sub>2</sub> emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under § 60.42c. Each 1-hour average SO<sub>2</sub> emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under § 60.13(h)(2). Hourly SO<sub>2</sub> emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under § 60.42c, the span value of the SO<sub>2</sub> CEMS at the inlet to the SO<sub>2</sub> control device shall be 125 percent of the maximum estimated hourly potential SO<sub>2</sub> emission rate of the fuel combusted, and the span value of the SO<sub>2</sub> CEMS at the outlet from the SO<sub>2</sub> control device shall be 50 percent of the maximum estimated hourly potential SO<sub>2</sub> emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of § 60.42c, the span value of the SO<sub>2</sub> CEMS at the outlet from the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) shall be 125 percent of the maximum estimated hourly potential



SO<sub>2</sub> emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO<sub>2</sub> emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO<sub>2</sub> emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO<sub>2</sub> input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO<sub>2</sub> at the inlet or outlet of the SO<sub>2</sub> control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO<sub>2</sub> and CO<sub>2</sub> measurement train operated at the candidate location and a second similar train operated according to the procedures in § 3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to § 60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO<sub>2</sub> standards based on fuel supplier certification, as described under § 60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

#### **§ 60.47c Emission monitoring for particulate matter.**

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under § 60.43c

shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in § 60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in § 60.11 to demonstrate compliance with the applicable limit in § 60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in § 60.45c(a)(8).

(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO<sub>2</sub> or PM emissions and that are subject to an opacity standard in § 60.43c(c) are not required to operate a COMS if they follow the applicable procedures in § 60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in § 60.45c(c). The CEMS specified in paragraph § 60.45c(c) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) Owners and operators of an affected facility that is subject to an opacity standard in § 60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO<sub>2</sub>, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in § 60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in § 60.13(h)(2).

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating

unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An owner or operator of an affected facility that is subject to an opacity standard in § 60.43c(c) is not required to operate a COMS provided that the affected facility meets the conditions in either paragraphs (f)(1), (2), or (3) of this section.

(1) The affected facility uses a fabric filter (baghouse) as the primary PM control device and, the owner or operator operates a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section § 60.48Da of this part.

(2) The affected facility uses an ESP as the primary PM control device, and the owner or operator uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the requirements in section § 60.48Da of this part.

(3) The affected facility burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the owner or operator operates the unit according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§ 60.8 and 60.11 that the owner or operator submit any deviations with the excess emissions report required under § 60.48c(c).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9463, Feb. 16, 2012]

#### **§ 60.48c Reporting and recordkeeping requirements.**

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by § 60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under § 60.42c, or § 60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO<sub>2</sub> emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits of § 60.42c, or

the PM or opacity limits of § 60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) In addition to the applicable requirements in § 60.7, the owner or operator of an affected facility subject to the opacity limits in § 60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

(d) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO<sub>2</sub> emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO<sub>2</sub> emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO<sub>2</sub> or diluent (O<sub>2</sub> or CO<sub>2</sub>) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of



average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c; and

(iii) The sulfur content or maximum sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in § 60.48c(f) to demonstrate compliance with the SO<sub>2</sub> standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in § 60.42C to use fuel certification to demonstrate compliance with the SO<sub>2</sub> standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under § 60.42c or § 60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

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# ELECTRONIC CODE OF FEDERAL REGULATIONS

**e-CFR Data is current as of June 18, 2013**

Title 40: Protection of Environment

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

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## Subpart A—General Provisions

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SOURCE: 59 FR 12430, Mar. 16, 1994, unless otherwise noted.

### **§ 63.1 Applicability.**

(a) *General.* (1) Terms used throughout this part are defined in § 63.2 or in the Clean Air Act (Act) as amended in 1990, except that individual subparts of this part may include specific definitions in addition to or that supersede definitions in § 63.2.

(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR part 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.

(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act



(section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard.

(4)(i) Each relevant standard in this part 63 must identify explicitly whether each provision in this subpart A is or is not included in such relevant standard.

(ii) If a relevant part 63 standard incorporates the requirements of 40 CFR part 60, part 61 or other part 63 standards, the relevant part 63 standard must identify explicitly the applicability of each corresponding part 60, part 61, or other part 63 subpart A (General) provision.

(iii) The General Provisions in this subpart A do not apply to regulations developed pursuant to section 112(r) of the amended Act, unless otherwise specified in those regulations.

(5) [Reserved]

(6) To obtain the most current list of categories of sources to be regulated under section 112 of the Act, or to obtain the most recent regulation promulgation schedule established pursuant to section 112(e) of the Act, contact the Office of the Director, Emission Standards Division, Office of Air Quality Planning and Standards, U.S. EPA (MD-13), Research Triangle Park, North Carolina 27711.

(7)-(9) [Reserved]

(10) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word “calendar” is absent, unless otherwise specified in an applicable requirement.

(11) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, test plan, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery agreed to by the permitting authority, is acceptable.

(12) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in § 63.9(i).

(b) *Initial applicability determination for this part.* (1) The provisions of this part apply to the owner or operator of any stationary source that—

(i) Emits or has the potential to emit any hazardous air pollutant listed in or pursuant to section 112(b) of the Act; and

(ii) Is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to this part.

(2) [Reserved]

(3) An owner or operator of a stationary source who is in the relevant source category and who

determines that the source is not subject to a relevant standard or other requirement established under this part must keep a record as specified in § 63.10(b)(3).

(c) *Applicability of this part after a relevant standard has been set under this part.* (1) If a relevant standard has been established under this part, the owner or operator of an affected source must comply with the provisions of that standard and of this subpart as provided in paragraph (a)(4) of this section.

(2) Except as provided in § 63.10(b)(3), if a relevant standard has been established under this part, the owner or operator of an affected source may be required to obtain a title V permit from a permitting authority in the State in which the source is located. Emission standards promulgated in this part for area sources pursuant to section 112(c)(3) of the Act will specify whether—

(i) States will have the option to exclude area sources affected by that standard from the requirement to obtain a title V permit (i.e., the standard will exempt the category of area sources altogether from the permitting requirement);

(ii) States will have the option to defer permitting of area sources in that category until the Administrator takes rulemaking action to determine applicability of the permitting requirements; or

(iii) If a standard fails to specify what the permitting requirements will be for area sources affected by such a standard, then area sources that are subject to the standard will be subject to the requirement to obtain a title V permit without any deferral.

(3)-(4) [Reserved]

(5) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source that is subject to the emission standard or other requirement, such source also shall be subject to the notification requirements of this subpart.

(d) [Reserved]

(e) If the Administrator promulgates an emission standard under section 112(d) or (h) of the Act that is applicable to a source subject to an emission limitation by permit established under section 112(j) of the Act, and the requirements under the section 112(j) emission limitation are substantially as effective as the promulgated emission standard, the owner or operator may request the permitting authority to revise the source's title V permit to reflect that the emission limitation in the permit satisfies the requirements of the promulgated emission standard. The process by which the permitting authority determines whether the section 112(j) emission limitation is substantially as effective as the promulgated emission standard must include, consistent with part 70 or 71 of this chapter, the opportunity for full public, EPA, and affected State review (including the opportunity for EPA's objection) prior to the permit revision being finalized. A negative determination by the permitting authority constitutes final action for purposes of review and appeal under the applicable title V operating permit program.

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16595, Apr. 5, 2002]

## § 63.2 Definitions.

The terms used in this part are defined in the Act or in this section as follows:

*Act* means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Pub. L. 101-549, 104 Stat. 2399).

*Actual emissions* is defined in subpart D of this part for the purpose of granting a compliance extension for an early reduction of hazardous air pollutants.

*Administrator* means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

*Affected source*, for the purposes of this part, means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act. Each relevant standard will define the “affected source,” as defined in this paragraph unless a different definition is warranted based on a published justification as to why this definition would result in significant administrative, practical, or implementation problems and why the different definition would resolve those problems. The term “affected source,” as used in this part, is separate and distinct from any other use of that term in EPA regulations such as those implementing title IV of the Act. Affected source may be defined differently for part 63 than affected facility and stationary source in parts 60 and 61, respectively. This definition of “affected source,” and the procedures for adopting an alternative definition of “affected source,” shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002.

*Alternative emission limitation* means conditions established pursuant to sections 112(i)(5) or 112(i)(6) of the Act by the Administrator or by a State with an approved permit program.

*Alternative emission standard* means an alternative means of emission limitation that, after notice and opportunity for public comment, has been demonstrated by an owner or operator to the Administrator's satisfaction to achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under a relevant design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act.

*Alternative test method* means any method of sampling and analyzing for an air pollutant that is not a test method in this chapter and that has been demonstrated to the Administrator's satisfaction, using Method 301 in appendix A of this part, to produce results adequate for the Administrator's determination that it may be used in place of a test method specified in this part.

*Approved permit program* means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to title V of the Act (42 U.S.C. 7661).

*Area source* means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

*Commenced* means, with respect to construction or reconstruction of an affected source, that an owner or operator has undertaken a continuous program of construction or reconstruction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.

*Compliance date* means the date by which an affected source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to section 112 of the Act.

*Compliance schedule* means: (1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or

(2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by

an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or

(3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based.

***Construction* means the on-site fabrication, erection, or installation of an affected source.**

Construction does not include the removal of all equipment comprising an affected source from an existing location and reinstallation of such equipment at a new location. The owner or operator of an existing affected source that is relocated may elect not to reinstall minor ancillary equipment including, but not limited to, piping, ductwork, and valves. However, removal and reinstallation of an affected source will be construed as reconstruction if it satisfies the criteria for reconstruction as defined in this section. The costs of replacing minor ancillary equipment must be considered in determining whether the existing affected source is reconstructed.

*Continuous emission monitoring system* (CEMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of emissions.

*Continuous monitoring system* (CMS) is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation.

*Continuous opacity monitoring system* (COMS) means a continuous monitoring system that measures the opacity of emissions.

*Continuous parameter monitoring system* means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

*Effective date* means:

(1) With regard to an emission standard established under this part, the date of promulgation in the FEDERAL REGISTER of such standard; or

(2) With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

*Emission standard* means a national standard, limitation, prohibition, or other regulation promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act.

*Emissions averaging* is a way to comply with the emission limitations specified in a relevant standard, whereby an affected source, if allowed under a subpart of this part, may create emission credits by reducing emissions from specific points to a level below that required by the relevant standard, and those credits are used to offset emissions from points that are not controlled to the level required by the relevant standard.

*EPA* means the United States Environmental Protection Agency.

*Equivalent emission limitation* means any maximum achievable control technology emission limitation or requirements which are applicable to a major source of hazardous air pollutants and are adopted by the Administrator (or a State with an approved permit program) on a case-by-case basis, pursuant to section 112(g) or (j) of the Act.

*Excess emissions and continuous monitoring system performance report* is a report that must be submitted periodically by an affected source in order to provide data on its compliance with relevant emission limits, operating parameters, and the performance of its continuous parameter monitoring systems.

*Existing source* means any affected source that is not a new source.

*Federally enforceable* means all limitations and conditions that are enforceable by the Administrator and citizens under the Act or that are enforceable under other statutes administered by the Administrator. Examples of federally enforceable limitations and conditions include, but are not limited to:

(1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;

(2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;

(3) All terms and conditions in a title V permit, including any provisions that limit a source's potential to emit, unless expressly designated as not federally enforceable;

(4) Limitations and conditions that are part of an approved State Implementation Plan (SIP) or a Federal Implementation Plan (FIP);

(5) Limitations and conditions that are part of a Federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by the EPA in accordance with 40 CFR part 51;

(6) Limitations and conditions that are part of an operating permit where the permit and the permitting program pursuant to which it was issued meet all of the following criteria:

(i) The operating permit program has been submitted to and approved by EPA into a State implementation plan (SIP) under section 110 of the CAA;

(ii) The SIP imposes a legal obligation that operating permit holders adhere to the terms and limitations of such permits and provides that permits which do not conform to the operating permit program requirements and the requirements of EPA's underlying regulations may be deemed not "federally enforceable" by EPA;

(iii) The operating permit program requires that all emission limitations, controls, and other requirements imposed by such permits will be at least as stringent as any other applicable limitations and requirements contained in the SIP or enforceable under the SIP, and that the program may not issue permits that waive, or make less stringent, any limitations or requirements contained in or issued pursuant to the SIP, or that are otherwise "federally enforceable";

(iv) The limitations, controls, and requirements in the permit in question are permanent, quantifiable, and otherwise enforceable as a practical matter; and

(v) The permit in question was issued only after adequate and timely notice and opportunity for

comment for EPA and the public.

(7) Limitations and conditions in a State rule or program that has been approved by the EPA under subpart E of this part for the purposes of implementing and enforcing section 112; and

(8) Individual consent agreements that the EPA has legal authority to create.

*Fixed capital cost* means the capital needed to provide all the depreciable components of an existing source.

*Force majeure* means, for purposes of § 63.7, an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

*Fugitive emissions* means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source.

*Hazardous air pollutant* means any air pollutant listed in or pursuant to section 112(b) of the Act.

*Issuance* of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

*Major source* means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

*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 which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

*Monitoring* means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:

(1) Indicator(s) of performance—the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.

(2) Measurement techniques—the means by which you gather and record information of or about

the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency—the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time—the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

*New affected source* means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of “new affected source,” and the criteria to be utilized in implementing it, shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term “new affected source,” which will be the same as the “affected source” unless a different collection is warranted based on consideration of factors including:

- (1) Emission reduction impacts of controlling individual sources versus groups of sources;
- (2) Cost effectiveness of controlling individual equipment;
- (3) Flexibility to accommodate common control strategies;
- (4) Cost/benefits of emissions averaging;
- (5) Incentives for pollution prevention;
- (6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);
- (7) Feasibility and cost of monitoring; and
- (8) Other relevant factors.

*New source* means any affected source the construction or reconstruction of which is commenced after the Administrator first proposes a relevant emission standard under this part establishing an emission standard applicable to such source.

*One-hour period*, unless otherwise defined in an applicable subpart, means any 60-minute period commencing on the hour.

*Opacity* means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. For continuous opacity monitoring systems, opacity means the fraction of incident light that is attenuated by an optical medium.

*Owner or operator* means any person who owns, leases, operates, controls, or supervises a stationary source.

*Performance audit* means a procedure to analyze blind samples, the content of which is known by the Administrator, simultaneously with the analysis of performance test samples in order to provide a measure of test data quality.

*Performance evaluation* means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

*Performance test* means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

*Permit modification* means a change to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

*Permit program* means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

*Permit revision* means any permit modification or administrative permit amendment to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

*Permitting authority* means: (1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

*Pollution Prevention* means *source reduction* as defined under the Pollution Prevention Act (42 U.S.C. 13101-13109). The definition is as follows:

(1) *Source reduction* is any practice that:

(i) Reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and

(ii) Reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.

(2) The term *source reduction* includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.

(3) The term *source reduction* does not include any practice that alters the physical, chemical, or biological characteristics or the volume of a hazardous substance, pollutant, or contaminant through a process or activity which itself is not integral to and necessary for the production of a product or the providing of a service.

*Potential to emit* means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.



*Reconstruction*, unless otherwise defined in a relevant standard, means the replacement of components of an affected or a previously nonaffected source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

*Regulation promulgation schedule* means the schedule for the promulgation of emission standards under this part, established by the Administrator pursuant to section 112(e) of the Act and published in the FEDERAL REGISTER .

*Relevant standard* means:

(1) An emission standard;

(2) An alternative emission standard;

(3) An alternative emission limitation; or

(4) An equivalent emission limitation established pursuant to section 112 of the Act that applies to the collection of equipment, activities, or both regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or operational requirement, or other measure, process, method, system, or technique (including prohibition of emissions) that the Administrator (or a State) establishes for new or existing sources to which such standard or limitation applies. Every relevant standard established pursuant to section 112 of the Act includes subpart A of this part, as provided by § 63.1(a)(4), and all applicable appendices of this part or of other parts of this chapter that are referenced in that standard.

*Responsible official* means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representative is approved in advance by the Administrator.

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.

(3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).

(4) For affected sources (as defined in this part) applying for or subject to a title V permit: “responsible official” shall have the same meaning as defined in part 70 or Federal title V regulations in

this chapter (42 U.S.C. 7661), whichever is applicable.

*Run* means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part.

*Shutdown* means the cessation of operation of an affected source or portion of an affected source for any purpose.

*Six-minute period* means, with respect to opacity determinations, any one of the 10 equal parts of a 1-hour period.

*Source at a Performance Track member facility* means a major or area source located at a facility which has been accepted by EPA for membership in the Performance Track Program (as described at [www.epa.gov/PerformanceTrack](http://www.epa.gov/PerformanceTrack) ) and is still a member of the Program. The Performance Track Program is a voluntary program that encourages continuous environmental improvement through the use of environmental management systems, local community outreach, and measurable results.

*Standard conditions* means a temperature of 293 K (68 °F) and a pressure of 101.3 kilopascals (29.92 in. Hg).

*Startup* means the setting in operation of an affected source or portion of an affected source for any purpose.

*State* means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement: (1) The provisions of this part and/or (2) the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

*Stationary source* means any building, structure, facility, or installation which emits or may emit any air pollutant.

*Test method* means the validated procedure for sampling, preparing, and analyzing for an air pollutant specified in a relevant standard as the performance test procedure. The test method may include methods described in an appendix of this chapter, test methods incorporated by reference in this part, or methods validated for an application through procedures in Method 301 of appendix A of this part.

*Title V permit* means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

*Visible emission* means the observation of an emission of opacity or optical density above the threshold of vision.

*Working day* means any day on which Federal Government offices (or State government offices for a State that has obtained delegation under section 112(l)) are open for normal business. Saturdays, Sundays, and official Federal (or where delegated, State) holidays are not working days.

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16596, Apr. 5, 2002; 68 FR 32600, May 30, 2003; 69 FR 21752, Apr. 22, 2004; 72 FR 27443, May 16, 2007]

### **§ 63.3 Units and abbreviations.**

Used in this part are abbreviations and symbols of units of measure. These are defined as follows:

(a) *System International (SI) units of measure:*

A = ampere

g = gram

Hz = hertz

J = joule

°K = degree Kelvin

kg = kilogram

l = liter

m = meter

m<sup>3</sup> = cubic meter

mg = milligram = 10<sup>-3</sup> gram

ml = milliliter = 10<sup>-3</sup> liter

mm = millimeter = 10<sup>-3</sup> meter

Mg = megagram = 10<sup>6</sup> gram = metric ton

MJ = megajoule

mol = mole

N = newton

ng = nanogram = 10<sup>-9</sup> gram

nm = nanometer = 10<sup>-9</sup> meter

Pa = pascal

s = second

V = volt

W = watt

Ω = ohm

μg = microgram = 10<sup>-6</sup> gram

μl = microliter = 10<sup>-6</sup> liter

*(b) Other units of measure:*

Btu = British thermal unit

°C = degree Celsius (centigrade)

cal = calorie

cfm = cubic feet per minute

cc = cubic centimeter

cu ft = cubic feet

d = day

dcf = dry cubic feet

dcm = dry cubic meter

dscf = dry cubic feet at standard conditions

dscm = dry cubic meter at standard conditions

eq = equivalent

°F degree Fahrenheit

ft = feet

ft<sup>2</sup> = square feet

ft<sup>3</sup> = cubic feet

gal = gallon

gr = grain

g-eq = gram equivalent

g-mole = gram mole

hr = hour

in. = inch

in. H<sub>2</sub> O = inches of water

K = 1,000

kcal = kilocalorie

lb = pound

lpm = liter per minute

meq = milliequivalent

min = minute

MW = molecular weight

oz = ounces

ppb = parts per billion

ppbw = parts per billion by weight

ppbv = parts per billion by volume

ppm = parts per million

ppmw = parts per million by weight

ppmv = parts per million by volume

psia = pounds per square inch absolute

psig = pounds per square inch gage

°R = degree Rankine

scf = cubic feet at standard conditions

scfh = cubic feet at standard conditions per hour

scm = cubic meter at standard conditions

scmm = cubic meter at standard conditions per minute

sec = second

sq ft = square feet

std = at standard conditions

v/v = volume per volume

yd<sup>2</sup> = square yards

yr = year

(c) *Miscellaneous:*

act = actual

avg = average

I.D. = inside diameter

M = molar

N = normal

O.D. = outside diameter

% = percent

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16598, Apr. 5, 2002]

**§ 63.4 Prohibited activities and circumvention.**

(a) *Prohibited activities.* (1) No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance are not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under section 112(i)(4) of the Act.

(2) No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.

(3)-(5) [Reserved]

(b) *Circumvention.* No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to—

(1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere;

(2) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions; and

(c) *Fragmentation*. Fragmentation after November 15, 1990 which divides ownership of an operation, within the same facility among various owners where there is no real change in control, will not affect applicability. The owner and operator must not use fragmentation or phasing of reconstruction activities (i.e., intentionally dividing reconstruction into multiple parts for purposes of avoiding new source requirements) to avoid becoming subject to new source requirements.

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16598, Apr. 5, 2002]

### **§ 63.5 Preconstruction review and notification requirements.**

(a) *Applicability*. (1) This section implements the preconstruction review requirements of section 112(i)(1). After the effective date of a relevant standard, promulgated pursuant to section 112(d), (f), or (h) of the Act, under this part, the preconstruction review requirements in this section apply to the owner or operator of new affected sources and reconstructed affected sources that are major-emitting as specified in this section. New and reconstructed affected sources that commence construction or reconstruction before the effective date of a relevant standard are not subject to the preconstruction review requirements specified in paragraphs (b)(3), (d), and (e) of this section.

(2) This section includes notification requirements for new affected sources and reconstructed affected sources that are not major-emitting affected sources and that are or become subject to a relevant promulgated emission standard after the effective date of a relevant standard promulgated under this part.

**(b) Requirements for existing, newly constructed, and reconstructed sources.** (1) A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

(2) [Reserved]

(3) After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures specified in paragraphs (d) and (e) of this section, do any of the following:

(i) Construct a new affected source that is major-emitting and subject to such standard;

(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or

(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

(4) After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in § 63.9(b).

(5) [Reserved]

(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source.

(c) [Reserved]

(d) *Application for approval of construction or reconstruction.* The provisions of this paragraph implement section 112(i)(1) of the Act.

(1) *General application requirements.* (i) An owner or operator who is subject to the requirements of paragraph (b)(3) of this section must submit to the Administrator an application for approval of the construction or reconstruction. The application must be submitted as soon as practicable before actual construction or reconstruction begins. The application for approval of construction or reconstruction may be used to fulfill the initial notification requirements of § 63.9(b)(5). The owner or operator may submit the application for approval well in advance of the date actual construction or reconstruction begins in order to ensure a timely review by the Administrator and that the planned date to begin will not be delayed.

(ii) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:

(A) The applicant's name and address;

(B) A notification of intention to construct a new major affected source or make any physical or operational change to a major affected source that may meet or has been determined to meet the criteria for a reconstruction, as defined in § 63.2 or in the relevant standard;

(C) The address (i.e., physical location) or proposed address of the source;

(D) An identification of the relevant standard that is the basis of the application;

(E) The expected date of the beginning of actual construction or reconstruction;

(F) The expected completion date of the construction or reconstruction;

(G) [Reserved]

(H) The type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the relevant standard, or if actual emissions data are not yet available, an estimate of the type and quantity of hazardous air pollutants expected to be emitted by the source reported in units and averaging times specified in the relevant standard. The owner or operator may submit percent reduction information if a relevant standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance; and

(I) [Reserved]

(J) Other information as specified in paragraphs (d)(2) and (d)(3) of this section.

(iii) An owner or operator who submits estimates or preliminary information in place of the actual emissions data and analysis required in paragraphs (d)(1)(ii)(H) and (d)(2) of this section shall submit the actual, measured emissions data and other correct information as soon as available but no later than with the notification of compliance status required in § 63.9(h) (see § 63.9(h)(5)).

(2) *Application for approval of construction.* Each application for approval of construction must include, in addition to the information required in paragraph (d)(1)(ii) of this section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including an identification of each type of emission point for each type of hazardous air pollutant that is emitted (or could reasonably be anticipated to be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions must include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions must include an estimated control efficiency (percent) for that method. Such technical information must include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations.

(3) *Application for approval of reconstruction.* Each application for approval of reconstruction shall include, in addition to the information required in paragraph (d)(1)(ii) of this section—

(i) A brief description of the affected source and the components that are to be replaced;

(ii) A description of present and proposed emission control systems (i.e., equipment or methods). The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations;

(iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;

(iv) The estimated life of the affected source after the replacements; and

(v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.

(vi) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in paragraphs (d)(3)(iii) through (d)(3)(v) of this section.

(4) *Additional information.* The Administrator may request additional relevant information after the submittal of an application for approval of construction or reconstruction.

(e) *Approval of construction or reconstruction.* (1)(i) If the Administrator determines that, if properly constructed, or reconstructed, and operated, a new or existing source for which an application under paragraph (d) of this section was submitted will not cause emissions in violation of the relevant standard(s) and any other federally enforceable requirements, the Administrator will approve the construction or reconstruction.

(ii) In addition, in the case of reconstruction, the Administrator's determination under this paragraph will be based on:

(A) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new source;



(B) The estimated life of the source after the replacements compared to the life of a comparable entirely new source;

(C) The extent to which the components being replaced cause or contribute to the emissions from the source; and

(D) Any economic or technical limitations on compliance with relevant standards that are inherent in the proposed replacements.

(2)(i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of construction or reconstruction within 60 calendar days after receipt of sufficient information to evaluate an application submitted under paragraph (d) of this section. The 60-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(3) Before denying any application for approval of construction or reconstruction, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with—

(i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator to enable further action on the application.

(4) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 calendar days of presentation of additional information or arguments (if the application is complete), or within 60 calendar days after the final date specified for presentation if no presentation is made.

(5) Neither the submission of an application for approval nor the Administrator's approval of construction or reconstruction shall—

(i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(f) *Approval of construction or reconstruction based on prior State preconstruction review.* (1) Preconstruction review procedures that a State utilizes for other purposes may also be utilized for purposes of this section if the procedures are substantially equivalent to those specified in this section. The Administrator will approve an application for construction or reconstruction specified in paragraphs (b)(3) and (d) of this section if the owner or operator of a new affected source or reconstructed affected source, who is subject to such requirement meets the following conditions:

(i) The owner or operator of the new affected source or reconstructed affected source has

undergone a preconstruction review and approval process in the State in which the source is (or would be) located and has received a federally enforceable construction permit that contains a finding that the source will meet the relevant promulgated emission standard, if the source is properly built and operated.

(ii) Provide a statement from the State or other evidence (such as State regulations) that it considered the factors specified in paragraph (e)(1) of this section.

(2) The owner or operator must submit to the Administrator the request for approval of construction or reconstruction under this paragraph (f)(2) no later than the application deadline specified in paragraph (d)(1) of this section (see also § 63.9(b)(2)). The owner or operator must include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in paragraph (e) of this section. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction under this paragraph (f)(2).

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16598, Apr. 5, 2002]

### **§ 63.6 Compliance with standards and maintenance requirements.**

(a) *Applicability.* (1) The requirements in this section apply to the owner or operator of affected sources for which any relevant standard has been established pursuant to section 112 of the Act and the applicability of such requirements is set out in accordance with § 63.1(a)(4) unless—

(i) The Administrator (or a State with an approved permit program) has granted an extension of compliance consistent with paragraph (i) of this section; or

(ii) The President has granted an exemption from compliance with any relevant standard in accordance with section 112(i)(4) of the Act.

(2) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source, such source shall be subject to the relevant emission standard or other requirement.

(b) *Compliance dates for new and reconstructed sources.* (1) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source for which construction or reconstruction commences after proposal of a relevant standard that has an initial startup before the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard not later than the standard's effective date.

(2) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source that has an initial startup after the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard upon startup of the source.

(3) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established under this part pursuant to section 112(d), 112(f), or 112(h) of the Act but before the effective date (that is, promulgation) of such standard shall comply with the relevant emission standard not later than the date 3 years after the effective date if:

(i) The promulgated standard (that is, the relevant standard) is more stringent than the proposed standard; for purposes of this paragraph, a finding that controls or compliance methods are "more stringent" must include control technologies or performance criteria and compliance or compliance assurance methods that are different but are substantially equivalent to those required by the promulgated rule, as determined by the Administrator (or his or her authorized representative); and

(ii) The owner or operator complies with the standard as proposed during the 3-year period immediately after the effective date.

(4) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established pursuant to section 112(d) of the Act but before the proposal date of a relevant standard established pursuant to section 112(f) shall not be required to comply with the section 112(f) emission standard until the date 10 years after the date construction or reconstruction is commenced, except that, if the section 112(f) standard is promulgated more than 10 years after construction or reconstruction is commenced, the owner or operator must comply with the standard as provided in paragraphs (b)(1) and (2) of this section.

(5) The owner or operator of a new source that is subject to the compliance requirements of paragraph (b)(3) or (4) of this section must notify the Administrator in accordance with § 63.9(d)

(6) [Reserved]

(7) When an area source becomes a major source by the addition of equipment or operations that meet the definition of new affected source in the relevant standard, the portion of the existing facility that is a new affected source must comply with all requirements of that standard applicable to new sources. The source owner or operator must comply with the relevant standard upon startup.

**(c) Compliance dates for existing sources.** (1) After the effective date of a relevant standard established under this part pursuant to section 112(d) or 112(h) of the Act, the owner or operator of an existing source shall comply with such standard by the compliance date established by the Administrator in the applicable subpart(s) of this part. Except as otherwise provided for in section 112 of the Act, in no case will the compliance date established for an existing source in an applicable subpart of this part exceed 3 years after the effective date of such standard.

(2) If an existing source is subject to a standard established under this part pursuant to section 112(f) of the Act, the owner or operator must comply with the standard by the date 90 days after the standard's effective date, or by the date specified in an extension granted to the source by the Administrator under paragraph (i)(4)(ii) of this section, whichever is later.

(3)-(4) [Reserved]

(5) Except as provided in paragraph (b)(7) of this section, the owner or operator of an area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source shall be subject to relevant standards for existing sources. Such sources must comply by the date specified in the standards for existing area sources that become major sources. If no such compliance date is specified in the standards, the source shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.

(d) [Reserved]

**(e) Operation and maintenance requirements.** (1)(i) At all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce

emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section), review of operation and maintenance records, and inspection of the source.

(ii) Malfunctions must be corrected as soon as practicable after their occurrence. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2) [Reserved]

**(3) *Startup, shutdown, and malfunction plan.*** (i) The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the relevant standard. The startup, shutdown, and malfunction plan does not need to address any scenario that would not cause the source to exceed an applicable emission limitation in the relevant standard. This plan must be developed by the owner or operator by the source's compliance date for that relevant standard. The purpose of the startup, shutdown, and malfunction plan is to—

(A) Ensure that, at all times, the owner or operator operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;

(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and

(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(ii) [Reserved]

(iii) When actions taken by the owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan and describes the actions taken for that event. In addition, the owner or operator must keep records of these events as specified in paragraph 63.10(b), including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in § 63.10(d)(5).

(iv) If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected

source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the owner or operator must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with § 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).

(v) The owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph (e)(3)(viii) of this section, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator. The Administrator may at any time request in writing that the owner or operator submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the owner or operator. Upon receipt of such a request, the owner or operator must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. The owner or operator may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Administrator in an electronic format. If the owner or operator claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission.

(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator.

(vii) Based on the results of a determination made under paragraph (e)(1)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;

(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or

(D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in § 63.2.

(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup,

shutdown, and malfunction plan must be reported in the semiannual report required by § 63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

(ix) The title V permit for an affected source must require that the owner or operator develop a startup, shutdown, and malfunction plan which conforms to the provisions of this part, but may do so by citing to the relevant subpart or subparagraphs of paragraph (e) of this section. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under part 70 or part 71 of this chapter and the elements of the startup, shutdown, and malfunction plan shall not be considered an applicable requirement as defined in § 70.2 and § 71.2 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

**(f) Compliance with nonopacity emission standards**—(1) *Applicability.* The non-opacity emission standards set forth in this part shall apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the non-opacity emission standards set forth in this part, then that emission point must still be required to comply with the non-opacity emission standards and other applicable requirements.

**(2) Methods for determining compliance.** (i) The Administrator will determine compliance with nonopacity emission standards in this part based on the results of performance tests conducted according to the procedures in § 63.7, unless otherwise specified in an applicable subpart of this part.

(ii) The Administrator will determine compliance with nonopacity emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in § 63.6(e) and applicable subparts of this part.

(iii) If an affected source conducts performance testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if—

(A) The performance test was conducted within a reasonable amount of time before an initial performance test is required to be conducted under the relevant standard;

(B) The performance test was conducted under representative operating conditions for the source;

(C) The performance test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in § 63.7(e) of this subpart; and

(D) The performance test was appropriately quality-assured, as specified in § 63.7(c).

(iv) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by review of records, inspection of the source, and other procedures specified in applicable subparts of this part.



(v) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, as specified in paragraph (e) of this section and applicable subparts of this part.

**(3) Finding of compliance.** The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard, as specified in paragraphs (f)(1) and (2) of this section, upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable), and information available to the Administrator pursuant to paragraph (e)(1)(i) of this section.

**(g) Use of an alternative nonopacity emission standard.** (1) If, in the Administrator's judgment, an owner or operator of an affected source has established that an alternative means of emission limitation will achieve a reduction in emissions of a hazardous air pollutant from an affected source at least equivalent to the reduction in emissions of that pollutant from that source achieved under any design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative emission standard for purposes of compliance with the promulgated standard. Any FEDERAL REGISTER notice under this paragraph shall be published only after the public is notified and given the opportunity to comment. Such notice will restrict the permission to the stationary source(s) or category(ies) of sources from which the alternative emission standard will achieve equivalent emission reductions. The Administrator will condition permission in such notice on requirements to assure the proper operation and maintenance of equipment and practices required for compliance with the alternative emission standard and other requirements, including appropriate quality assurance and quality control requirements, that are deemed necessary.

(2) An owner or operator requesting permission under this paragraph shall, unless otherwise specified in an applicable subpart, submit a proposed test plan or the results of testing and monitoring in accordance with § 63.7 and § 63.8, a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring. Any testing or monitoring conducted to request permission to use an alternative nonopacity emission standard shall be appropriately quality assured and quality controlled, as specified in § 63.7 and § 63.8.

(3) The Administrator may establish general procedures in an applicable subpart that accomplish the requirements of paragraphs (g)(1) and (g)(2) of this section.

**(h) Compliance with opacity and visible emission standards —(1) Applicability.** The opacity and visible emission standards set forth in this part must apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the opacity and visible emission standards set forth in this part, then that emission point shall still be required to comply with the opacity and visible emission standards and other applicable requirements.

**(2) Methods for determining compliance.** (i) The Administrator will determine compliance with opacity and visible emission standards in this part based on the results of the test method specified in an applicable subpart. Whenever a continuous opacity monitoring system (COMS) is required to be installed to determine compliance with numerical opacity emission standards in this part, compliance with opacity emission standards in this part shall be determined by using the results from the COMS. Whenever an opacity emission test method is not specified, compliance with opacity emission standards in this part shall be determined by conducting observations in accordance with Test Method 9 in appendix A of part 60 of this chapter or the method specified in paragraph (h)(7)(ii) of this section. Whenever a visible emission test method is not specified, compliance with visible emission standards in this part shall be determined by conducting observations in accordance with Test Method 22 in appendix A of part 60 of

this chapter.

(ii) [Reserved]

(iii) If an affected source undergoes opacity or visible emission testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if—

(A) The opacity or visible emission test was conducted within a reasonable amount of time before a performance test is required to be conducted under the relevant standard;

(B) The opacity or visible emission test was conducted under representative operating conditions for the source;

(C) The opacity or visible emission test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in § 63.7(e); and

(D) The opacity or visible emission test was appropriately quality-assured, as specified in § 63.7(c) of this section.

(3) [Reserved]

(4) *Notification of opacity or visible emission observations.* The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting opacity or visible emission observations in accordance with § 63.9(f), if such observations are required for the source by a relevant standard.

(5) *Conduct of opacity or visible emission observations.* When a relevant standard under this part includes an opacity or visible emission standard, the owner or operator of an affected source shall comply with the following:

(i) For the purpose of demonstrating initial compliance, opacity or visible emission observations shall be conducted concurrently with the initial performance test required in § 63.7 unless one of the following conditions applies:

(A) If no performance test under § 63.7 is required, opacity or visible emission observations shall be conducted within 60 days after achieving the maximum production rate at which a new or reconstructed source will be operated, but not later than 120 days after initial startup of the source, or within 120 days after the effective date of the relevant standard in the case of new sources that start up before the standard's effective date. If no performance test under § 63.7 is required, opacity or visible emission observations shall be conducted within 120 days after the compliance date for an existing or modified source; or

(B) If visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under § 63.7, or within the time period specified in paragraph (h)(5)(i)(A) of this section, the source's owner or operator shall reschedule the opacity or visible emission observations as soon after the initial performance test, or time period, as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. The rescheduled opacity or visible emission observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under § 63.7. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity or visible emission observations from being made concurrently with the initial performance test in accordance with procedures contained in Test Method 9 or Test Method 22 in appendix A of part 60 of this chapter.

(ii) For the purpose of demonstrating initial compliance, the minimum total time of opacity



observations shall be 3 hours (30 6-minute averages) for the performance test or other required set of observations (e.g., for fugitive-type emission sources subject only to an opacity emission standard).

(iii) The owner or operator of an affected source to which an opacity or visible emission standard in this part applies shall conduct opacity or visible emission observations in accordance with the provisions of this section, record the results of the evaluation of emissions, and report to the Administrator the opacity or visible emission results in accordance with the provisions of § 63.10(d).

(iv) [Reserved]

(v) Opacity readings of portions of plumes that contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity emission standards.

(6) *Availability of records.* The owner or operator of an affected source shall make available, upon request by the Administrator, such records that the Administrator deems necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification.

(7) *Use of a continuous opacity monitoring system.* (i) The owner or operator of an affected source required to use a continuous opacity monitoring system (COMS) shall record the monitoring data produced during a performance test required under § 63.7 and shall furnish the Administrator a written report of the monitoring results in accordance with the provisions of § 63.10(e)(4).

(ii) Whenever an opacity emission test method has not been specified in an applicable subpart, or an owner or operator of an affected source is required to conduct Test Method 9 observations (see appendix A of part 60 of this chapter), the owner or operator may submit, for compliance purposes, COMS data results produced during any performance test required under § 63.7 in lieu of Method 9 data. If the owner or operator elects to submit COMS data for compliance with the opacity emission standard, he or she shall notify the Administrator of that decision, in writing, simultaneously with the notification under § 63.7(b) of the date the performance test is scheduled to begin. Once the owner or operator of an affected source has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent performance tests required under § 63.7, unless the owner or operator notifies the Administrator in writing to the contrary not later than with the notification under § 63.7(b) of the date the subsequent performance test is scheduled to begin.

(iii) For the purposes of determining compliance with the opacity emission standard during a performance test required under § 63.7 using COMS data, the COMS data shall be reduced to 6-minute averages over the duration of the mass emission performance test.

(iv) The owner or operator of an affected source using a COMS for compliance purposes is responsible for demonstrating that he/she has complied with the performance evaluation requirements of § 63.8(e), that the COMS has been properly maintained, operated, and data quality-assured, as specified in § 63.8(c) and § 63.8(d), and that the resulting data have not been altered in any way.

(v) Except as provided in paragraph (h)(7)(ii) of this section, the results of continuous monitoring by a COMS that indicate that the opacity at the time visual observations were made was not in excess of the emission standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the affected source proves that, at the time of the alleged violation, the instrument used was properly maintained, as specified in § 63.8(c), and met Performance Specification 1 in appendix B of part 60 of this chapter, and that the resulting data have not been altered in any way.

(8) *Finding of compliance.* The Administrator will make a finding concerning an affected source's compliance with an opacity or visible emission standard upon obtaining all the compliance information required by the relevant standard (including the written reports of the results of the performance tests required by § 63.7, the results of Test Method 9 or another required opacity or visible emission test method, the observer certification required by paragraph (h)(6) of this section, and the continuous

opacity monitoring system results, whichever is/are applicable) and any information available to the Administrator needed to determine whether proper operation and maintenance practices are being used.

(9) *Adjustment to an opacity emission standard.* (i) If the Administrator finds under paragraph (h)(8) of this section that an affected source is in compliance with all relevant standards for which initial performance tests were conducted under § 63.7, but during the time such performance tests were conducted fails to meet any relevant opacity emission standard, the owner or operator of such source may petition the Administrator to make appropriate adjustment to the opacity emission standard for the affected source. Until the Administrator notifies the owner or operator of the appropriate adjustment, the relevant opacity emission standard remains applicable.

(ii) The Administrator may grant such a petition upon a demonstration by the owner or operator that—

(A) The affected source and its associated air pollution control equipment were operated and maintained in a manner to minimize the opacity of emissions during the performance tests;

(B) The performance tests were performed under the conditions established by the Administrator; and

(C) The affected source and its associated air pollution control equipment were incapable of being adjusted or operated to meet the relevant opacity emission standard.

(iii) The Administrator will establish an adjusted opacity emission standard for the affected source meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity emission standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity emission standard in the FEDERAL REGISTER.

(iv) After the Administrator promulgates an adjusted opacity emission standard for an affected source, the owner or operator of such source shall be subject to the new opacity emission standard, and the new opacity emission standard shall apply to such source during any subsequent performance tests.

(i) *Extension of compliance with emission standards.* (1) Until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with all applicable requirements of this part.

(2) *Extension of compliance for early reductions and other reductions —(i) Early reductions.* Pursuant to section 112(i)(5) of the Act, if the owner or operator of an existing source demonstrates that the source has achieved a reduction in emissions of hazardous air pollutants in accordance with the provisions of subpart D of this part, the Administrator (or the State with an approved permit program) will grant the owner or operator an extension of compliance with specific requirements of this part, as specified in subpart D.

(ii) *Other reductions.* Pursuant to section 112(i)(6) of the Act, if the owner or operator of an existing source has installed best available control technology (BACT) (as defined in section 169(3) of the Act) or technology required to meet a lowest achievable emission rate (LAER) (as defined in section 171 of the Act) prior to the promulgation of an emission standard in this part applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to the BACT or LAER installation, the Administrator will grant the owner or operator an extension of compliance with such emission standard that will apply until the date 5 years after the date on which such installation was achieved, as determined by the Administrator.

(3) *Request for extension of compliance.* Paragraphs (i)(4) through (i)(7) of this section concern requests for an extension of compliance with a relevant standard under this part (except requests for an

extension of compliance under paragraph (i)(2)(i) of this section will be handled through procedures specified in subpart D of this part).

(4)(i)(A) The owner or operator of an existing source who is unable to comply with a relevant standard established under this part pursuant to section 112(d) of the Act may request that the Administrator (or a State, when the State has an approved part 70 permit program and the source is required to obtain a part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the source up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 1-year extension of compliance is insufficient to dry and cover mining waste in order to reduce emissions of any hazardous air pollutant. The owner or operator of an affected source who has requested an extension of compliance under this paragraph and who is otherwise required to obtain a title V permit shall apply for such permit or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the affected source's title V permit according to the provisions of part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) Any request under this paragraph for an extension of compliance with a relevant standard must be submitted in writing to the appropriate authority no later than 120 days prior to the affected source's compliance date (as specified in paragraphs (b) and (c) of this section), except as provided for in paragraph (i)(4)(i)(C) of this section. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the date of denial. Emission standards established under this part may specify alternative dates for the submittal of requests for an extension of compliance if alternatives are appropriate for the source categories affected by those standards.

(C) An owner or operator may submit a compliance extension request after the date specified in paragraph (i)(4)(i)(B) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (i)(6)(i) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(ii) The owner or operator of an existing source unable to comply with a relevant standard established under this part pursuant to section 112(f) of the Act may request that the Administrator grant an extension allowing the source up to 2 years after the standard's effective date to comply with the standard. The Administrator may grant such an extension if he/she finds that such additional period is necessary for the installation of controls and that steps will be taken during the period of the extension to assure that the health of persons will be protected from imminent endangerment. Any request for an extension of compliance with a relevant standard under this paragraph must be submitted in writing to the Administrator not later than 90 calendar days after the effective date of the relevant standard.

(5) The owner or operator of an existing source that has installed BACT or technology required to meet LAER [as specified in paragraph (i)(2)(ii) of this section] prior to the promulgation of a relevant emission standard in this part may request that the Administrator grant an extension allowing the source 5 years from the date on which such installation was achieved, as determined by the Administrator, to comply with the standard. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 120 days after the promulgation date of the standard. The Administrator may grant such an extension if he or she finds that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be

controlled at that source by the relevant emission standard.

(6)(i) The request for a compliance extension under paragraph (i)(4) of this section shall include the following information:

(A) A description of the controls to be installed to comply with the standard;

(B) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

( 1 ) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated; and

( 2 ) The date by which final compliance is to be achieved.

( 3 ) The date by which on-site construction, installation of emission control equipment, or a process change is to be completed; and

( 4 ) The date by which final compliance is to be achieved;

(C)-(D)

(ii) The request for a compliance extension under paragraph (i)(5) of this section shall include all information needed to demonstrate to the Administrator's satisfaction that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(7) Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(8) *Approval of request for extension of compliance.* Paragraphs (i)(9) through (i)(14) of this section concern approval of an extension of compliance requested under paragraphs (i)(4) through (i)(6) of this section.

(9) Based on the information provided in any request made under paragraphs (i)(4) through (i)(6) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with an emission standard, as specified in paragraphs (i)(4) and (i)(5) of this section.

(10) The extension will be in writing and will—

(i) Identify each affected source covered by the extension;

(ii) Specify the termination date of the extension;

(iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and

(v)(A) Under paragraph (i)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or

(B) Under paragraph (i)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

(11) The owner or operator of an existing source that has been granted an extension of compliance under paragraph (i)(10) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached. The contents of the progress reports and the dates by which they shall be submitted will be specified in the written extension of compliance granted under paragraph (i)(10) of this section.

(12)(i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(i) or (i)(5) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with—

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(iv) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(13)(i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(ii) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 15 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator will notify the owner or operator in writing of the Administrator's intention to issue the denial, together with—

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator before further action on the request.

(iv) A final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(14) The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (i)(10)(iii) or (iv) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(i) Notice of the reason for termination; and

(ii) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(iii) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(15) [Reserved]

(16) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the Act.

(j) *Exemption from compliance with emission standards.* The President may exempt any stationary source from compliance with any relevant standard established pursuant to section 112 of the Act for a period of not more than 2 years if the President determines that the technology to implement such standard is not available and that it is in the national security interests of the United States to do so. An exemption under this paragraph may be extended for 1 or more additional periods, each period not to exceed 2 years.

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16599, Apr. 5, 2002; 68 FR 32600, May 30, 2003; 71 FR 20454, Apr. 20, 2006]

### § 63.7 Performance testing requirements.

**(a) Applicability and performance test dates.** (1) The applicability of this section is set out in § 63.1(a)(4).

(2) Except as provided in paragraph (a)(4) of this section, if required to do performance testing by a relevant standard, and unless a waiver of performance testing is obtained under this section or the conditions of paragraph (c)(3)(ii)(B) of this section apply, the owner or operator of the affected source must perform such tests within 180 days of the compliance date for such source.

(i)-(viii) [Reserved]

(ix) Except as provided in paragraph (a)(4) of this section, when an emission standard promulgated under this part is more stringent than the standard proposed (see § 63.6(b)(3)), the owner or operator of

a new or reconstructed source subject to that standard for which construction or reconstruction is commenced between the proposal and promulgation dates of the standard shall comply with performance testing requirements within 180 days after the standard's effective date, or within 180 days after startup of the source, whichever is later. If the promulgated standard is more stringent than the proposed standard, the owner or operator may choose to demonstrate compliance with either the proposed or the promulgated standard. If the owner or operator chooses to comply with the proposed standard initially, the owner or operator shall conduct a second performance test within 3 years and 180 days after the effective date of the standard, or after startup of the source, whichever is later, to demonstrate compliance with the promulgated standard.

(3) The Administrator may require an owner or operator to conduct performance tests at the affected source at any other time when the action is authorized by section 114 of the Act.

(4) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure:

(i) The owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline specified in paragraph (a)(2) or (a)(3) of this section, or elsewhere in this part, 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 shall occur as soon as practicable.

(ii) The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in testing 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 the owner or operator proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure occurs.

(iii) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an extension as soon as practicable.

(iv) Until an extension of the performance test deadline has been approved by the Administrator under paragraphs (a)(4)(i), (a)(4)(ii), and (a)(4)(iii) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.

**(b) Notification of performance test.** (1) The owner or operator of an affected source must notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled to begin to allow the Administrator, upon request, to review and approve the site-specific test plan required under paragraph (c) of this section and to have an observer present during the test.

(2) In the event the owner or operator is unable to conduct the performance test on the date specified in the notification requirement specified in paragraph (b)(1) of this section due to unforeseeable circumstances beyond his or her control, the owner or operator must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the owner or operator of legal responsibility for compliance with any other applicable provisions of this part or with any other applicable Federal, State, or local requirement, nor will it prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

**(c) Quality assurance program.** (1) The results of the quality assurance program required in this paragraph will be considered by the Administrator when he/she determines the validity of a performance test.

**(2)(i) *Submission of site-specific test plan.*** Before conducting a required performance test, the owner or operator of an affected source shall develop and, if requested by the Administrator, shall submit a site-specific test plan to the Administrator for approval. The test plan shall include a test program summary, the test schedule, data quality objectives, and both an internal and external quality assurance (QA) program. Data quality objectives are the pretest expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data precision; an example of internal QA is the sampling and analysis of replicate samples.

(iii) The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

(A) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3C of Appendix A-3 of Part 60, Methods 6C, 7E, 9, and 10 of Appendix A-4 of Part 60, Method 18 of Appendix A-6 of Part 60, Methods 20, 22, and 25A of Appendix A-7 of Part 60, and Methods 303, 318, 320, and 321 of Appendix A of Part 63. If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. "Commercially available" means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, <http://www.epa.gov/ttn/emc>, to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days



prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering an audit sample, the source owner, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request and the compliance authority may grant a waiver to the requirement that a representative of the compliance authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance authority and then report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

(B) An AASP shall have and shall prepare, analyze, and report the true value of audit samples in accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:

(1) Preparing the sample;

(2) Confirming the true concentration of the sample;

(3) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range;

(4) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;

( 5 ) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;

( 6 ) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;

( 7 ) Reporting the results from each audit sample in a timely manner to the compliance authority and to the source owner, operator, or representative by the AASP. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.

( 8 ) Evaluating the acceptance limits of samples at least once every two years to determine in consultation with the voluntary consensus standard body if they should be changed.

( 9 ) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

(C) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

( 1 ) Checking audit samples to confirm their true value as reported by the AASP.

( 2 ) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years.

( 3 ) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.

(D) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget *Circular A-119* . A copy of Circular A-119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395-6880 or downloading online at [http://standards.gov/standards\\_gov/a119.cfm](http://standards.gov/standards_gov/a119.cfm) . The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in paragraphs (c)(2)(iii)(B) through (C) of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, <http://www.epa.gov/ttn/emc> .

(iv) The owner or operator of an affected source shall submit the site-specific test plan to the Administrator upon the Administrator's request at least 60 calendar days before the performance test is scheduled to take place, that is, simultaneously with the notification of intention to conduct a performance test required under paragraph (b) of this section, or on a mutually agreed upon date.

(v) The Administrator may request additional relevant information after the submittal of a site-specific test plan.

**(3) Approval of site-specific test plan.** (i) The Administrator will notify the owner or operator of approval or intention to deny approval of the site-specific test plan (if review of the site-specific test plan is requested) within 30 calendar days after receipt of the original plan and within 30 calendar days after receipt of any supplementary information that is submitted under paragraph (c)(3)(i)(B) of this section. Before disapproving any site-specific test plan, the Administrator will notify the applicant of the Administrator's intention to disapprove the plan together with—

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present, within 30 calendar days after he/she is notified of the intended disapproval, additional information to the Administrator before final action on

the plan.

(ii) In the event that the Administrator fails to approve or disapprove the site-specific test plan within the time period specified in paragraph (c)(3)(i) of this section, the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the test method(s) specified in the relevant standard or with only minor changes to those tests methods (see paragraph (e)(2)(i) of this section), the owner or operator must conduct the performance test within the time specified in this section using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method when the Administrator approves the site-specific test plan (if review of the site-specific test plan is requested) or after the alternative method is approved (see paragraph (f) of this section). However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval 45 days after submission of the site-specific test plan or request to use an alternative method. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(iii) Neither the submission of a site-specific test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall—

(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

**(d) Performance testing facilities.** If required to do performance testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source, shall provide performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such source. This includes:

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

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

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

**(e) Conduct of performance tests.** (1) Performance tests shall be conducted under such conditions

as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under § 63.6(e). Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(2) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this section, in each relevant standard, and, if required, in applicable appendices of parts 51, 60, 61, and 63 of this chapter unless the Administrator—

(i) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology (see definition in § 63.90(a)). Such changes may be approved in conjunction with approval of the site-specific test plan (see paragraph (c) of this section); or

(ii) Approves the use of an intermediate or major change or alternative to a test method (see definitions in § 63.90(a)), the results of which the Administrator has determined to be adequate for indicating whether a specific affected source is in compliance; or

(iii) Approves shorter sampling times or smaller sample volumes when necessitated by process variables or other factors; or

(iv) Waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the Administrator's satisfaction that the affected source is in compliance with the relevant standard.

(3) Unless otherwise specified in a relevant standard or test method, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the relevant standard. For the purpose of determining compliance with a relevant standard, the arithmetic mean of the results of the three runs shall apply. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run in the event that—

(i) A sample is accidentally lost after the testing team leaves the site; or

(ii) Conditions occur in which one of the three runs must be discontinued because of forced shutdown; or

(iii) Extreme meteorological conditions occur; or

(iv) Other circumstances occur that are beyond the owner or operator's control.

(4) Nothing in paragraphs (e)(1) through (e)(3) of this section shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

**(f) Use of an alternative test method**—(1) *General.* Until authorized to use an intermediate or major change or alternative to a test method, the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) The owner or operator of an affected source required to do performance testing by a relevant standard may use an alternative test method from that specified in the standard provided that the owner or operator—

(i) Notifies the Administrator of his or her intention to use an alternative test method at least 60 days

before the performance test is scheduled to begin;

(ii) Uses Method 301 in appendix A of this part to validate the alternative test method. This may include the use of specific procedures of Method 301 if use of such procedures are sufficient to validate the alternative test method; and

(iii) Submits the results of the Method 301 validation process along with thnotification of intention and the justification for not using the specified test method. The owner or operator may submit the information required in this paragraph well in advance of the deadline specified in paragraph (f)(2)(i) of this section to ensure a timely review by the Administrator in order to meet the performance test date specified in this section or the relevant standard.

(3) The Administrator will determine whether the owner or operator's validation of the proposed alternative test method is adequate and issue an approval or disapproval of the alternative test method. If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method. However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval/disapproval 45 days after submission of the request to use an alternative method and the request satisfies the requirements in paragraph (f)(2) of this section. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(4) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative test method for the purposes of demonstrating compliance with a relevant standard, the Administrator may require the use of a test method specified in a relevant standard.

(5) If the owner or operator uses an alternative test method for an affected source during a required performance test, the owner or operator of such source shall continue to use the alternative test method for subsequent performance tests at that affected source until he or she receives approval from the Administrator to use another test method as allowed under § 63.7(f).

(6) Neither the validation and approval process nor the failure to validate an alternative test method shall abrogate the owner or operator's responsibility to comply with the requirements of this part.

**(g) Data analysis, recordkeeping, and reporting.** (1) Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, results of a performance test shall include the analysis of samples, determination of emissions, and raw data. A performance test is "completed" when field sample collection is terminated. The owner or operator of an affected source shall report the results of the performance test to the Administrator before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator (see § 63.9(i)). The results of the performance test shall be submitted as part of the notification of compliance status required under § 63.9(h). Before a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the appropriate permitting authority.

(2) [Reserved]

(3) For a minimum of 5 years after a performance test is conducted, the owner or operator shall retain and make available, upon request, for inspection by the Administrator the records or results of

such performance test and other data needed to determine emissions from an affected source.

(h) *Waiver of performance tests.* (1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) *Request to waive a performance test.* (i) If a request is made for an extension of compliance under § 63.6(i), the application for a waiver of an initial performance test shall accompany the information required for the request for an extension of compliance. If no extension of compliance is requested or if the owner or operator has requested an extension of compliance and the Administrator is still considering that request, the application for a waiver of an initial performance test shall be submitted at least 60 days before the performance test if the site-specific test plan under paragraph (c) of this section is not submitted.

(ii) If an application for a waiver of a subsequent performance test is made, the application may accompany any required compliance progress report, compliance status report, or excess emissions and continuous monitoring system performance report [such as those required under § 63.6(i), § 63.9(h), and § 63.10(e) or specified in a relevant standard or in the source's title V permit], but it shall be submitted at least 60 days before the performance test if the site-specific test plan required under paragraph (c) of this section is not submitted.

(iii) Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test.

(4) *Approval of request to waive performance test.* The Administrator will approve or deny a request for a waiver of a performance test made under paragraph (h)(3) of this section when he/she—

(i) Approves or denies an extension of compliance under § 63.6(i)(8); or

(ii) Approves or disapproves a site-specific test plan under § 63.7(c)(3); or

(iii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iv) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

[59 FR 12430, Mar. 16, 1994, as amended at 65 FR 62215, Oct. 17, 2000; 67 FR 16602, Apr. 5, 2002; 72 FR 27443, May 16, 2007; 75 FR 55655, Sept. 13, 2010]

### **§ 63.8 Monitoring requirements.**

(a) *Applicability.* (1) The applicability of this section is set out in § 63.1(a)(4).

(2) For the purposes of this part, all CMS required under relevant standards shall be subject to the provisions of this section upon promulgation of performance specifications for CMS as specified in the relevant standard or otherwise by the Administrator.

(3) [Reserved]

(4) Additional monitoring requirements for control devices used to comply with provisions in relevant standards of this part are specified in § 63.11.

(b) *Conduct of monitoring.* (1) Monitoring shall be conducted as set forth in this section and the relevant standard(s) unless the Administrator—

(i) Specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures (see § 63.90(a) for definition); or

(ii) Approves the use of an intermediate or major change or alternative to any monitoring requirements or procedures (see § 63.90(a) for definition).

(iii) Owners or operators with flares subject to § 63.11(b) are not subject to the requirements of this section unless otherwise specified in the relevant standard.

(2)(i) When the emissions from two or more affected sources are combined before being released to the atmosphere, the owner or operator may install an applicable CMS for each emission stream or for the combined emissions streams, provided the monitoring is sufficient to demonstrate compliance with the relevant standard.

(ii) If the relevant standard is a mass emission standard and the emissions from one affected source are released to the atmosphere through more than one point, the owner or operator must install an applicable CMS at each emission point unless the installation of fewer systems is—

(A) Approved by the Administrator; or

(B) Provided for in a relevant standard (e.g., instead of requiring that a CMS be installed at each emission point before the effluents from those points are channeled to a common control device, the standard specifies that only one CMS is required to be installed at the vent of the control device).

(3) When more than one CMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CMS. However, when one CMS is used as a backup to another CMS, the owner or operator shall report the results from the CMS used to meet the monitoring requirements of this part. If both such CMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CMS for the relevant compliance period.

(c) *Operation and maintenance of continuous monitoring systems.* (1) The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices. (i) The owner or operator of an affected source must maintain and operate each CMS as specified in § 63.6(e)(1).

(ii) The owner or operator must keep the necessary parts for routine repairs of the affected CMS equipment readily available.

(iii) The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan for CMS as specified in § 63.6(e)(3).

(2)(i) All CMS must be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from



any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

(3) All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under § 63.7. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(4) Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS, including COMS and CEMS, shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(i) All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(ii) All CEMS for measuring emissions other than opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(5) Unless otherwise approved by the Administrator, minimum procedures for COMS shall include a method for producing a simulated zero opacity condition and an upscale (high-level) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of all the analyzer's internal optical surfaces and all electronic circuitry, including the lamp and photodetector assembly normally used in the measurement of opacity.

(6) The owner or operator of a CMS that is not a CPMS, which is installed in accordance with the provisions of this part and the applicable CMS performance specification(s), must check the zero (low-level) and high-level calibration drifts at least once daily in accordance with the written procedure specified in the performance evaluation plan developed under paragraphs (e)(3)(i) and (ii) of this section. The zero (low-level) and high-level calibration drifts must be adjusted, at a minimum, whenever the 24-hour zero (low-level) drift exceeds two times the limits of the applicable performance specification(s) specified in the relevant standard. The system shall allow the amount of excess zero (low-level) and high-level drift measured at the 24-hour interval checks to be recorded and quantified whenever specified. For COMS, all optical and instrumental surfaces exposed to the effluent gases must be cleaned prior to performing the zero (low-level) and high-level drift adjustments; the optical surfaces and instrumental surfaces must be cleaned when the cumulative automatic zero compensation, if applicable, exceeds 4 percent opacity. The CPMS must be calibrated prior to use for the purposes of complying with this section. The CPMS must be checked daily for indication that the system is responding. If the CPMS system includes an internal system check, results must be recorded and checked daily for proper operation.

(7)(i) A CMS is out of control if—

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

(B) The CMS fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit; or

(C) The COMS CD exceeds two times the limit in the applicable performance specification in the relevant standard.

(ii) When the CMS is out of control, the owner or operator of the affected source shall take the necessary corrective action and shall repeat all necessary tests which indicate that the system is out of



control. The owner or operator shall 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 the owner or operator conducts 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. During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement established under this part.

(8) The owner or operator of a CMS that is out of control as defined in paragraph (c)(7) of this section shall submit all information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken, in the excess emissions and continuous monitoring system performance report required in § 63.10(e)(3).

(d) *Quality control program.* (1) The results of the quality control program required in this paragraph will be considered by the Administrator when he/she determines the validity of monitoring data.

(2) The owner or operator of an affected source that is required to use a CMS and is subject to the monitoring requirements of this section and a relevant standard shall develop and implement a CMS quality control program. As part of the quality control program, the owner or operator shall develop and submit to the Administrator for approval upon request a site-specific performance evaluation test plan for the CMS performance evaluation required in paragraph (e)(3)(i) of this section, according to the procedures specified in paragraph (e). In addition, each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the following operations:

- (i) Initial and any subsequent calibration of the CMS;
- (ii) Determination and adjustment of the calibration drift of the CMS;
- (iii) Preventive maintenance of the CMS, including spare parts inventory;
- (iv) Data recording, calculations, and reporting;
- (v) Accuracy audit procedures, including sampling and analysis methods; and
- (vi) Program of corrective action for a malfunctioning CMS.

(3) The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. Where relevant, e.g., program of corrective action for a malfunctioning CMS, these written procedures may be incorporated as part of the affected source's startup, shutdown, and malfunction plan to avoid duplication of planning and recordkeeping efforts.

(e) *Performance evaluation of continuous monitoring systems* —(1) *General.* When required by a relevant standard, and at any other time the Administrator may require under section 114 of the Act, the owner or operator of an affected source being monitored shall conduct a performance evaluation of the CMS. Such performance evaluation shall be conducted according to the applicable specifications and procedures described in this section or in the relevant standard.

(2) *Notification of performance evaluation.* The owner or operator shall notify the Administrator in writing of the date of the performance evaluation simultaneously with the notification of the performance test date required under § 63.7(b) or at least 60 days prior to the date the performance evaluation is scheduled to begin if no performance test is required.

(3)(i) *Submission of site-specific performance evaluation test plan.* Before conducting a required CMS performance evaluation, the owner or operator of an affected source shall develop and submit a site-specific performance evaluation test plan to the Administrator for approval upon request. The performance evaluation test plan shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external QA program. Data quality objectives are the pre-evaluation expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance. The external QA program shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(iii) The owner or operator of an affected source shall submit the site-specific performance evaluation test plan to the Administrator (if requested) at least 60 days before the performance test or performance evaluation is scheduled to begin, or on a mutually agreed upon date, and review and approval of the performance evaluation test plan by the Administrator will occur with the review and approval of the site-specific test plan (if review of the site-specific test plan is requested).

(iv) The Administrator may request additional relevant information after the submittal of a site-specific performance evaluation test plan.

(v) In the event that the Administrator fails to approve or disapprove the site-specific performance evaluation test plan within the time period specified in § 63.7(c)(3), the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the monitoring method(s) specified in the relevant standard, the owner or operator shall conduct the performance evaluation within the time specified in this subpart using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to a monitoring method specified in the relevant standard, the owner or operator shall refrain from conducting the performance evaluation until the Administrator approves the use of the alternative method. If the Administrator does not approve the use of the alternative method within 30 days before the performance evaluation is scheduled to begin, the performance evaluation deadlines specified in paragraph (e)(4) of this section may be extended such that the owner or operator shall conduct the performance evaluation within 60 calendar days after the Administrator approves the use of the alternative method. Notwithstanding the requirements in the preceding two sentences, the owner or operator may proceed to conduct the performance evaluation as required in this section (without the Administrator's prior approval of the site-specific performance evaluation test plan) if he/she subsequently chooses to use the specified monitoring method(s) instead of an alternative.

(vi) Neither the submission of a site-specific performance evaluation test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall—

(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(4) *Conduct of performance evaluation and performance evaluation dates.* The owner or operator of an affected source shall conduct a performance evaluation of a required CMS during any performance test required under § 63.7 in accordance with the applicable performance specification as specified in the

relevant standard. Notwithstanding the requirement in the previous sentence, if the owner or operator of an affected source elects to submit COMS data for compliance with a relevant opacity emission standard as provided under § 63.6(h)(7), he/she shall conduct a performance evaluation of the COMS as specified in the relevant standard, before the performance test required under § 63.7 is conducted in time to submit the results of the performance evaluation as specified in paragraph (e)(5)(ii) of this section. If a performance test is not required, or the requirement for a performance test has been waived under § 63.7(h), the owner or operator of an affected source shall conduct the performance evaluation not later than 180 days after the appropriate compliance date for the affected source, as specified in § 63.7(a), or as otherwise specified in the relevant standard.

(5) *Reporting performance evaluation results.* (i) The owner or operator shall furnish the Administrator a copy of a written report of the results of the performance evaluation simultaneously with the results of the performance test required under § 63.7 or within 60 days of completion of the performance evaluation if no test is required, unless otherwise specified in a relevant standard. The Administrator may request that the owner or operator submit the raw data from a performance evaluation in the report of the performance evaluation results.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under § 63.7 and described in § 63.6(d)(6) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation under this paragraph. The copies shall be provided at least 15 calendar days before the performance test required under § 63.7 is conducted.

(f) *Use of an alternative monitoring method* —(1) *General.* Until permission to use an alternative monitoring procedure (minor, intermediate, or major changes; see definition in § 63.90(a)) has been granted by the Administrator under this paragraph (f)(1), the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their measurements and the measurements of opacity by a system complying with the requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected

source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4)(i) *Request to use alternative monitoring procedure.* An owner or operator who wishes to use an alternative monitoring procedure must submit an application to the Administrator as described in paragraph (f)(4)(ii) of this section. The application may be submitted at any time provided that the monitoring procedure is not the performance test method used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring procedure will serve as the performance test method that is to be used to demonstrate compliance with a relevant standard, the application must be submitted at least 60 days before the performance evaluation is scheduled to begin and must meet the requirements for an alternative test method under § 63.7(f).

(ii) The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in § 63.2 and a performance evaluation test plan, if required, as specified in paragraph (e)(3) of this section. In addition, the application must include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) The owner or operator may submit the information required in this paragraph well in advance of the submittal dates specified in paragraph (f)(4)(i) above to ensure a timely review by the Administrator in order to meet the compliance demonstration date specified in this section or the relevant standard.

(iv) Application for minor changes to monitoring procedures, as specified in paragraph (b)(1) of this section, may be made in the site-specific performance evaluation plan.

(5) *Approval of request to use alternative monitoring procedure.* (i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. If a request for a minor change is made in conjunction with site-specific performance evaluation plan, then approval of the plan will constitute approval of the minor change. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with—

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) The Administrator may establish general procedures and criteria in a relevant standard to accomplish the requirements of paragraph (f)(5)(i) of this section.

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (f)(5)(i) of this section, the owner or operator of such source shall continue to use the

alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by § 63.8(f).

(6) *Alternative to the relative accuracy test.* An alternative to the relative accuracy test for CEMS specified in a relevant standard may be requested as follows:

(i) *Criteria for approval of alternative procedures.* An alternative to the test method for determining relative accuracy is available for affected sources with emission rates demonstrated to be less than 50 percent of the relevant standard. The owner or operator of an affected source may petition the Administrator under paragraph (f)(6)(ii) of this section to substitute the relative accuracy test in section 7 of Performance Specification 2 with the procedures in section 10 if the results of a performance test conducted according to the requirements in § 63.7, or other tests performed following the criteria in § 63.7, demonstrate that the emission rate of the pollutant of interest in the units of the relevant standard is less than 50 percent of the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the owner or operator may petition the Administrator to substitute the relative accuracy test with the procedures in section 10 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the CEMS is used continuously to determine compliance with the relevant standard.

(ii) *Petition to use alternative to relative accuracy test.* The petition to use an alternative to the relative accuracy test shall include a detailed description of the procedures to be applied, the location and the procedure for conducting the alternative, the concentration or response levels of the alternative relative accuracy materials, and the other equipment checks included in the alternative procedure(s). The Administrator will review the petition for completeness and applicability. The Administrator's determination to approve an alternative will depend on the intended use of the CEMS data and may require specifications more stringent than in Performance Specification 2.

(iii) *Rescission of approval to use alternative to relative accuracy test.* The Administrator will review the permission to use an alternative to the CEMS relative accuracy test and may rescind such permission if the CEMS data from a successful completion of the alternative relative accuracy procedure indicate that the affected source's emissions are approaching the level of the relevant standard. The criterion for reviewing the permission is that the collection of CEMS data shows that emissions have exceeded 70 percent of the relevant standard for any averaging period, as specified in the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the criterion for reviewing the permission is that the collection of CEMS data shows that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for any averaging period, as specified in the relevant standard. The owner or operator of the affected source shall maintain records and determine the level of emissions relative to the criterion for permission to use an alternative for relative accuracy testing. If this criterion is exceeded, the owner or operator shall notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increased emissions. The Administrator will review the notification and may rescind permission to use an alternative and require the owner or operator to conduct a relative accuracy test of the CEMS as specified in section 7 of Performance Specification 2.

(g) *Reduction of monitoring data.* (1) The owner or operator of each CMS must reduce the monitoring data as specified in paragraphs (g)(1) through (5) of this section.

(2) The owner or operator of each COMS shall reduce all data to 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period. Data from CEMS for measurement other than opacity, unless otherwise specified in the relevant standard, shall be reduced to 1-hour averages computed from four or more data points equally spaced over each 1-hour period, except during periods when calibration, quality assurance, or maintenance activities pursuant to provisions of this part are being performed. During these periods, a valid hourly average shall consist of at least two data points with each representing a 15-minute period. Alternatively, an arithmetic or integrated 1-hour

average of CEMS data may be used. Time periods for averaging are defined in § 63.2.

(3) The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant).

(4) All emission data shall be converted into units of the relevant standard for reporting purposes using the conversion procedures specified in that standard. After conversion into units of the relevant standard, the data may be rounded to the same number of significant digits as used in that standard to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

(5) Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments must not be included in any data average computed under this part. For the owner or operator complying with the requirements of § 63.10(b)(2)(vii)(A) or (B), data averages must include any data recorded during periods of monitor breakdown or malfunction.

[59 FR 12430, Mar. 16, 1994, as amended at 64 FR 7468, Feb. 12, 1999; 67 FR 16603, Apr. 5, 2002; 71 FR 20455, Apr. 20, 2006]

### **§ 63.9 Notification requirements.**

(a) *Applicability and general information.* (1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a notice that contains all the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(4)(i) Before a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any notifications at its discretion.

(b) *Initial notifications.* (1)(i) The requirements of this paragraph apply to the owner or operator of an affected source when such source becomes subject to a relevant standard.

(ii) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source that is subject to the emission standard or other requirement, such source shall be subject to the notification requirements of this section.

(iii) Affected sources that are required under this paragraph to submit an initial notification may use the application for approval of construction or reconstruction under § 63.5(d) of this subpart, if relevant,

to fulfill the initial notification requirements of this paragraph.

(2) The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard), shall provide the following information:

(i) The name and address of the owner or operator;

(ii) The address (i.e., physical location) of the affected source;

(iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;

(iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and

(v) A statement of whether the affected source is a major source or an area source.

(3) [Reserved]

(4) The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i); and

(ii)-(iv) [Reserved]

(v) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(5) The owner or operator of a new or reconstructed affected source for which an application for approval of construction or reconstruction is not required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new affected source, reconstruct an affected source, or reconstruct a source such that the source becomes an affected source, and

(ii) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) Unless the owner or operator has requested and received prior permission from the Administrator to submit less than the information in § 63.5(d), the notification must include the information required on the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i).

(c) *Request for extension of compliance.* If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with § 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in § 63.6(i)(4) through § 63.6(i)(6).

(d) *Notification that source is subject to special compliance requirements.* An owner or operator of a new source that is subject to special compliance requirements as specified in § 63.6(b)(3) and § 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in paragraph (b) of this section for new sources that are not subject to the special provisions.

(e) *Notification of performance test.* The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Administrator to review and approve the site-specific test plan required under § 63.7(c), if requested by the Administrator, and to have an observer present during the test.

(f) *Notification of opacity and visible emission observations.* The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting the opacity or visible emission observations specified in § 63.6(h)(5), if such observations are required for the source by a relevant standard. The notification shall be submitted with the notification of the performance test date, as specified in paragraph (e) of this section, or if no performance test is required or visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under § 63.7, the owner or operator shall deliver or postmark the notification not less than 30 days before the opacity or visible emission observations are scheduled to take place.

(g) *Additional notification requirements for sources with continuous monitoring systems.* The owner or operator of an affected source required to use a CMS by a relevant standard shall furnish the Administrator written notification as follows:

(1) A notification of the date the CMS performance evaluation under § 63.8(e) is scheduled to begin, submitted simultaneously with the notification of the performance test date required under § 63.7(b). If no performance test is required, or if the requirement to conduct a performance test has been waived for an affected source under § 63.7(h), the owner or operator shall notify the Administrator in writing of the date of the performance evaluation at least 60 calendar days before the evaluation is scheduled to begin;

(2) A notification that COMS data results will be used to determine compliance with the applicable opacity emission standard during a performance test required by § 63.7 in lieu of Method 9 or other opacity emissions test method data, as allowed by § 63.6(h)(7)(ii), if compliance with an opacity emission standard is required for the source by a relevant standard. The notification shall be submitted at least 60 calendar days before the performance test is scheduled to begin; and

(3) A notification that the criterion necessary to continue use of an alternative to relative accuracy testing, as provided by § 63.8(f)(6), has been exceeded. The notification shall be delivered or postmarked not later than 10 days after the occurrence of such exceedance, and it shall include a description of the nature and cause of the increased emissions.

(h) *Notification of compliance status.* (1) The requirements of paragraphs (h)(2) through (h)(4) of this section apply when an affected source becomes subject to a relevant standard.

(2)(i) Before a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit to the Administrator a notification of compliance status, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the relevant standard. The notification shall list—

(A) The methods that were used to determine compliance;

(B) The results of any performance tests, opacity or visible emission observations, continuous



monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted;

(C) The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods;

(D) The type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard;

(E) If the relevant standard applies to both major and area sources, an analysis demonstrating whether the affected source is a major source (using the emissions data generated for this notification);

(F) A description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method); and

(G) A statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements.

(ii) The notification must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business on the 60th (or other required) day following the completion of any subsequent required performance test. If no performance test is required but opacity or visible emission observations are required to demonstrate compliance with an opacity or visible emission standard under this part, the notification of compliance status shall be sent before close of business on the 30th day following the completion of opacity or visible emission observations. Notifications may be combined as long as the due date requirement for each notification is met.

(3) After a title V permit has been issued to the owner or operator of an affected source, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this part. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in the relevant standard.

(4) [Reserved]

(5) If an owner or operator of an affected source submits estimates or preliminary information in the application for approval of construction or reconstruction required in § 63.5(d) in place of the actual emissions data or control efficiencies required in paragraphs (d)(1)(ii)(H) and (d)(2) of § 63.5, the owner or operator shall submit the actual emissions data and other correct information as soon as available but no later than with the initial notification of compliance status required in this section.

(6) Advice on a notification of compliance status may be obtained from the Administrator.

(i) *Adjustment to time periods or postmark deadlines for submittal and review of required communications.* (1)(i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (i)(2) and (i)(3) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (i)(2) and (i)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

**(j) Change in information already provided.** Any change in the information already provided under this section shall be provided to the Administrator in writing within 15 calendar days after the change.

[59 FR 12430, Mar. 16, 1994, as amended at 64 FR 7468, Feb. 12, 1999; 67 FR 16604, Apr. 5, 2002; 68 FR 32601, May 30, 2003]

#### **§ 63.10 Recordkeeping and reporting requirements.**

**(a) Applicability and general information.** (1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a report that contains all the information required in a report listed in this section, an owner or operator may send the Administrator a copy of the report sent to the State to satisfy the requirements of this section for that report.

(4)(i) Before a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each report submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any reports at its discretion.

(5) If an owner or operator of an affected source in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the

submission of periodic reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. For each relevant standard established pursuant to section 112 of the Act, the allowance in the previous sentence applies in each State beginning 1 year after the affected source's compliance date for that standard. Procedures governing the implementation of this provision are specified in § 63.9(i).

(6) If an owner or operator supervises one or more stationary sources affected by more than one standard established pursuant to section 112 of the Act, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required for each source shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the latest compliance date for any relevant standard established pursuant to section 112 of the Act for any such affected source(s). Procedures governing the implementation of this provision are specified in § 63.9(i).

(7) If an owner or operator supervises one or more stationary sources affected by standards established pursuant to section 112 of the Act (as amended November 15, 1990) and standards set under part 60, part 61, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required by each relevant (i.e., applicable) standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the relevant section 112 standard, or 1 year after the stationary source is required to be in compliance with the applicable part 60 or part 61 standard, whichever is latest. Procedures governing the implementation of this provision are specified in § 63.9(i).

**(b) General recordkeeping requirements.** (1) The owner or operator of an affected source subject to the provisions of this part shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(2) The owner or operator of an affected source subject to the provisions of this part shall maintain relevant records for such source of—

(i) The occurrence and duration of each startup or shutdown when the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards;

(ii) The occurrence and duration of each malfunction of operation (i.e., process equipment) or the required air pollution control and monitoring equipment;

(iii) All required maintenance performed on the air pollution control and monitoring equipment;

(iv)(A) Actions taken during periods of startup or shutdown when the source exceeded applicable emission limitations in a relevant standard and when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see § 63.6(e)(3)); or

(B) Actions taken during periods of malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see § 63.6(e)(3));

(v) All information necessary, including actions taken, to demonstrate conformance with the affected

source's startup, shutdown, and malfunction plan (see § 63.6(e)(3)) when all actions taken during periods of startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events);

(vi) Each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);

(vii) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);

(A) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(B) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(C) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (b)(2)(vii), if the administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(viii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations;

(ix) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations;

(x) All CMS calibration checks;

(xi) All adjustments and maintenance performed on CMS;

(xii) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements under this part, if the source has been granted a waiver under paragraph (f) of this section;

(xiii) All emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test, if the source has been granted such permission under § 63.8(f)(6); and

(xiv) All documentation supporting initial notifications and notifications of compliance status under § 63.9.

(3) *Recordkeeping requirement for applicability determinations.* If an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f), and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under this part) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the Administrator to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of this part for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with EPA guidance materials published to assist sources in making applicability determinations under section 112, if any. The requirements to determine applicability of a standard under § 63.1(b)(3) and to record the results of that determination under paragraph (b)(3) of this section shall not by themselves create an obligation for the owner or operator to obtain a title V permit.

(c) *Additional recordkeeping requirements for sources with continuous monitoring systems.* In addition to complying with the requirements specified in paragraphs (b)(1) and (b)(2) of this section, the owner or operator of an affected source required to install a CMS by a relevant standard shall maintain records for such source of—

(1) All required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);

(2)-(4) [Reserved]

(5) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;

(6) The date and time identifying each period during which the CMS was out of control, as defined in § 63.8(c)(7);

(7) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source;

(8) The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

(9) [Reserved]

(10) The nature and cause of any malfunction (if known);

(11) The corrective action taken or preventive measures adopted;

(12) The nature of the repairs or adjustments to the CMS that was inoperative or out of control;

(13) The total process operating time during the reporting period; and

(14) All procedures that are part of a quality control program developed and implemented for CMS under § 63.8(d).

(15) In order to satisfy the requirements of paragraphs (c)(10) through (c)(12) of this section and to avoid duplicative recordkeeping efforts, the owner or operator may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan specified in § 63.6(e), provided that such plan and records adequately address the requirements of paragraphs (c)(10) through (c)(12).

**(d) General reporting requirements.** (1) Notwithstanding the requirements in this paragraph or paragraph (e) of this section, and except as provided in § 63.16, the owner or operator of an affected source subject to reporting requirements under this part shall submit reports to the Administrator in accordance with the reporting requirements in the relevant standard(s).

**(2) Reporting results of performance tests.** Before a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of any performance test under § 63.7 to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of a required performance test to the appropriate permitting authority. The owner or operator of an affected source shall report the results of the performance test to the Administrator (or the State with an approved permit program) before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator. The results of the performance test shall be submitted as part of the notification of compliance status required under § 63.9(h).

**(3) Reporting results of opacity or visible emission observations.** The owner or operator of an affected source required to conduct opacity or visible emission observations by a relevant standard shall report the opacity or visible emission results (produced using Test Method 9 or Test Method 22, or an alternative to these test methods) along with the results of the performance test required under § 63.7. If no performance test is required, or if visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the performance test required under § 63.7, the owner or operator shall report the opacity or visible emission results before the close of business on the 30th day following the completion of the opacity or visible emission observations.

**(4) Progress reports.** The owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under § 63.6(i) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

**(5)(i) Periodic startup, shutdown, and malfunction reports.** If actions taken by an owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see § 63.6(e)(3)), the owner or operator shall state such information in a startup, shutdown, and malfunction report. Actions taken to minimize emissions during such startups, shutdowns, and malfunctions shall be summarized in the report and may be done in checklist form; if actions taken are the same for each event, only one checklist is necessary. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup or shutdown caused the source to exceed any applicable emission limitation in the relevant emission standards, or if a malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter,



containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit). The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in paragraph (e)(3) of this section.

**(ii) Immediate startup, shutdown, and malfunction reports.** Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under paragraph (d)(5)(i) of this section, any time an action taken by an owner or operator during a startup or shutdown that caused the source to exceed any applicable emission limitation in the relevant emission standards, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this paragraph (d)(5)(ii) shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred (or could have occurred in the case of malfunctions), and actions taken to minimize emissions in conformance with § 63.6(e)(1)(i). Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph (d)(5)(ii) are specified in § 63.9(i).

**(e) Additional reporting requirements for sources with continuous monitoring systems —(1) General.** When more than one CEMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CEMS.

**(2) Reporting results of continuous monitoring system performance evaluations.** (i) The owner or operator of an affected source required to install a CMS by a relevant standard shall furnish the Administrator a copy of a written report of the results of the CMS performance evaluation, as required under § 63.8(e), simultaneously with the results of the performance test required under § 63.7, unless otherwise specified in the relevant standard.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under § 63.7 and described in § 63.6(d)(6) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation conducted under § 63.8(e). The copies shall be furnished at least 15 calendar days before the performance test required under § 63.7 is conducted.

**(3) Excess emissions and continuous monitoring system performance report and summary report.**

(i) Excess emissions and parameter monitoring exceedances are defined in relevant standards. The owner or operator of an affected source required to install a CMS by a relevant standard shall submit an excess emissions and continuous monitoring system performance report and/or a summary report to the Administrator semiannually, except when—

(A) More frequent reporting is specifically required by a relevant standard;

(B) The Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source; or

(C) [Reserved]

(D) The affected source is complying with the Performance Track Provisions of § 63.16, which allows less frequent reporting.

(ii) *Request to reduce frequency of excess emissions and continuous monitoring system performance reports.* Notwithstanding the frequency of reporting requirements specified in paragraph (e)(3)(i) of this section, an owner or operator who is required by a relevant standard to submit excess emissions and continuous monitoring system performance (and summary) reports on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(A) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected source's excess emissions and continuous monitoring system performance reports continually demonstrate that the source is in compliance with the relevant standard;

(B) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the relevant standard; and

(C) The Administrator does not object to a reduced frequency of reporting for the affected source, as provided in paragraph (e)(3)(iii) of this section.

(iii) The frequency of reporting of excess emissions and continuous monitoring system performance (and summary) reports required to comply with a relevant standard may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the 5-year recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iv) As soon as CMS data indicate that the source is not in compliance with any emission limitation or operating parameter specified in the relevant standard, the frequency of reporting shall revert to the frequency specified in the relevant standard, and the owner or operator shall submit an excess emissions and continuous monitoring system performance (and summary) report for the noncomplying emission points at the next appropriate reporting period following the noncomplying event. After demonstrating ongoing compliance with the relevant standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard, as provided for in paragraphs (e)(3)(ii) and (e)(3)(iii) of this section.



(v) *Content and submittal dates for excess emissions and monitoring system performance reports.*

All excess emissions and monitoring system performance reports and all summary reports, if required, shall be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate. Written reports of excess emissions or exceedances of process or control system parameters shall include all the information required in paragraphs (c)(5) through (c)(13) of this section, in § 63.8(c)(7) and § 63.8(c)(8), and in the relevant standard, and they shall contain the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no excess emissions or exceedances of a parameter have occurred, or a CMS has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

(vi) *Summary report.* As required under paragraphs (e)(3)(vii) and (e)(3)(viii) of this section, one summary report shall be submitted for the hazardous air pollutants monitored at each affected source (unless the relevant standard specifies that more than one summary report is required, e.g., one summary report for each hazardous air pollutant monitored). The summary report shall be entitled "Summary Report—Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" and shall contain the following information:

- (A) The company name and address of the affected source;
- (B) An identification of each hazardous air pollutant monitored at the affected source;
- (C) The beginning and ending dates of the reporting period;
- (D) A brief description of the process units;
- (E) The emission and operating parameter limitations specified in the relevant standard(s);
- (F) The monitoring equipment manufacturer(s) and model number(s);
- (G) The date of the latest CMS certification or audit;
- (H) The total operating time of the affected source during the reporting period;

(I) An emission data summary (or similar summary if the owner or operator monitors control system parameters), including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes;

(J) A CMS performance summary (or similar summary if the owner or operator monitors control system parameters), including the total CMS downtime during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of CMS downtime expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total CMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, nonmonitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes;

(K) A description of any changes in CMS, processes, or controls since the last reporting period;

(L) The name, title, and signature of the responsible official who is certifying the accuracy of the report; and

(M) The date of the report.

(vii) If the total duration of excess emissions or process or control system parameter exceedances

for the reporting period is less than 1 percent of the total operating time for the reporting period, and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report shall be submitted, and the full excess emissions and continuous monitoring system performance report need not be submitted unless required by the Administrator.

(viii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, both the summary report and the excess emissions and continuous monitoring system performance report shall be submitted.

(4) *Reporting continuous opacity monitoring system data produced during a performance test.* The owner or operator of an affected source required to use a COMS shall record the monitoring data produced during a performance test required under § 63.7 and shall furnish the Administrator a written report of the monitoring results. The report of COMS data shall be submitted simultaneously with the report of the performance test results required in paragraph (d)(2) of this section.

(f) *Waiver of recordkeeping or reporting requirements.* (1) Until a waiver of a recordkeeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Recordkeeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator's judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of recordkeeping or reporting is made, the application shall accompany the request for an extension of compliance under § 63.6(i), any required compliance progress report or compliance status report required under this part (such as under § 63.6(i) and § 63.9(h)) or in the source's title V permit, or an excess emissions and continuous monitoring system performance report required under paragraph (e) of this section, whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements under this paragraph when he/she—

(i) Approves or denies an extension of compliance; or

(ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any recordkeeping or reporting requirement granted under this paragraph may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

[59 FR 12430, Mar. 16, 1994, as amended at 64 FR 7468, Feb. 12, 1999; 67 FR 16604, Apr. 5, 2002; 68 FR 32601, May 30, 2003; 69 FR 21752, Apr. 22, 2004; 71 FR 20455, Apr. 20, 2006]

### **§ 63.11 Control device and work practice requirements.**

(a) *Applicability.* (1) The applicability of this section is set out in § 63.1(a)(4).

(2) This section contains requirements for control devices used to comply with applicable subparts of this part. The requirements are placed here for administrative convenience and apply only to facilities covered by subparts referring to this section.

(3) This section also contains requirements for an alternative work practice used to identify leaking equipment. This alternative work practice is placed here for administrative convenience and is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(b) *Flares.* (1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.

(2) Flares shall be steam-assisted, air-assisted, or non-assisted.

(3) Flares shall be operated at all times when emissions may be vented to them.

(4) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Test Method 22 in appendix A of part 60 of this chapter shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.

(5) Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(6) An owner/operator has the choice of adhering to the heat content specifications in paragraph (b)(6)(ii) of this section, and the maximum tip velocity specifications in paragraph (b)(7) or (b)(8) of this section, or adhering to the requirements in paragraph (b)(6)(i) of this section.

(i)(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity  $V_{\max}$ , as determined by the following equation:

$$V_{\max} = (X_{H_2} - K_1) * K_2$$

Where:

$V_{\max}$  = Maximum permitted velocity, m/sec.

$K_1$  = Constant, 6.0 volume-percent hydrogen.

$K_2$  = Constant, 3.9(m/sec)/volume-percent hydrogen.

$X_{H_2}$  = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 63.14).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(7)(i) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating

value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

$H_T$  = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

$K$  = Constant =

$$1.740 \times 10^{-7} \left( \frac{1}{ppmv} \right) \left( \frac{\text{g-mole}}{\text{scm}} \right) \left( \frac{\text{MJ}}{\text{kcal}} \right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

$C_i$  = Concentration of sample component  $i$  in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946-77 or 90 (Reapproved 1994) (incorporated by reference as specified in § 63.14).

$H_i$  = Net heat of combustion of sample component  $i$ , kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in § 63.14) if published values are not available or cannot be calculated.

$n$  = Number of sample components.

(7)(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60 of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, less than the velocity  $V_{\max}$ , as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity,  $V_{\max}$ , for flares complying with this paragraph shall be determined by the following equation:

$$\text{Log}_{10} (V_{\max}) = (H_T + 28.8) / 31.7$$

Where:

$V_{\max}$  = Maximum permitted velocity, m/sec.

28.8 = Constant.

31.7 = Constant.

$H_T$  = The net heating value as determined in paragraph (b)(6) of this section.

(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity  $V_{\max}$ . The maximum permitted velocity,  $V_{\max}$ , for air-assisted flares shall be determined by the following equation:

$$V_{\max} = 8.71 + 0.708(H_T)$$

Where:

$V_{\max}$  = Maximum permitted velocity, m/sec.

8.71 = Constant.

0.708 = Constant.

$H_T$  = The net heating value as determined in paragraph (b)(6)(ii) of this section.

(c) *Alternative work practice for monitoring equipment for leaks.* Paragraphs (c), (d), and (e) of this section apply to all equipment for which the applicable subpart requires monitoring with a 40 CFR part 60, appendix A-7, Method 21 monitor, except for closed vent systems, equipment designated as leakless, and equipment identified in the applicable subpart as having no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. An owner or operator may use an optical gas imaging instrument instead of a 40 CFR part 60, appendix A-7, Method 21 monitor. Requirements in the existing subparts that are specific to the Method 21 instrument do not apply under this section. All other requirements in the applicable subpart that are not addressed in paragraphs (c), (d), and (e) of this section continue to apply. For example, equipment specification requirements, and non-Method 21 instrument recordkeeping and reporting requirements in the applicable subpart continue to apply. The terms defined in paragraphs (c)(1) through (5) of this section have meanings that are specific to the alternative work practice standard in paragraphs (c), (d), and (e) of this section.

(1) *Applicable subpart* means the subpart in 40 CFR parts 60, 61, 63, and 65 that requires monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(2) *Equipment* means pumps, valves, pressure relief valves, compressors, open-ended lines, flanges, connectors, and other equipment covered by the applicable subpart that require monitoring with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(3) *Imaging* means making visible emissions that may otherwise be invisible to the naked eye.

(4) *Optical gas imaging instrument* means an instrument that makes visible emissions that may otherwise be invisible to the naked eye.

(5) *Repair* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak.

(6) *Leak* means:

(i) Any emissions imaged by the optical gas instrument;

(ii) Indications of liquids dripping;

(iii) Indications by a sensor that a seal or barrier fluid system has failed; or

(iv) Screening results using a 40 CFR part 60, appendix A-7, Method 21 monitor that exceed the leak definition in the applicable subpart to which the equipment is subject.

(d) The alternative work practice standard for monitoring equipment for leaks is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60,

appendix A-7, Method 21 monitor.

(1) An owner or operator of an affected source subject to 40 CFR parts 60, 61, 63, or 65 can choose to comply with the alternative work practice requirements in paragraph (e) of this section instead of using the 40 CFR part 60, appendix A-7, Method 21 monitor to identify leaking equipment. The owner or operator must document the equipment, process units, and facilities for which the alternative work practice will be used to identify leaks.

(2) Any leak detected when following the leak survey procedure in paragraph (e)(3) of this section must be identified for repair as required in the applicable subpart.

(3) If the alternative work practice is used to identify leaks, re-screening after an attempted repair of leaking equipment must be conducted using either the alternative work practice or the 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subparts to which the equipment is subject.

(4) The schedule for repair is as required in the applicable subpart.

(5) When this alternative work practice is used for detecting leaking equipment, choose one of the monitoring frequencies listed in Table 1 to subpart A of this part in lieu of the monitoring frequency specified for regulated equipment in the applicable subpart. Reduced monitoring frequencies for good performance are not applicable when using the alternative work practice.

(6) When this alternative work practice is used for detecting leaking equipment, the following are not applicable for the equipment being monitored:

(i) Skip period leak detection and repair;

(ii) Quality improvement plans; or

(iii) Complying with standards for allowable percentage of valves and pumps to leak.

(7) When the alternative work practice is used to detect leaking equipment, the regulated equipment in paragraph (d)(1)(i) of this section must also be monitored annually using a 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subpart. The owner or operator may choose the specific monitoring period (for example, first quarter) to conduct the annual monitoring. Subsequent monitoring must be conducted every 12 months from the initial period. Owners or operators must keep records of the annual Method 21 screening results, as specified in paragraph (i)(4)(vii) of this section.

(e) An owner or operator of an affected source who chooses to use the alternative work practice must comply with the requirements of paragraphs (e)(1) through (e)(5) of this section.

(1) *Instrument specifications.* The optical gas imaging instrument must comply with the requirements specified in paragraphs (e)(1)(i) and (e)(1)(ii) of this section.

(i) Provide the operator with an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check described in paragraph (e)(2) of this section. The detection sensitivity level depends upon the frequency at which leak monitoring is to be performed.

(ii) Provide a date and time stamp for video records of every monitoring event.

(2) *Daily instrument check.* On a daily basis, and prior to beginning any leak monitoring work, test the optical gas imaging instrument at the mass flow rate determined in paragraph (e)(2)(i) of this section in accordance with the procedure specified in paragraphs (e)(2)(ii) through (e)(2)(iv) of this section for

each camera configuration used during monitoring (for example, different lenses used), unless an alternative method to demonstrate daily instrument checks has been approved in accordance with paragraph (e)(2)(v) of this section.

(i) Calculate the mass flow rate to be used in the daily instrument check by following the procedures in paragraphs (e)(2)(i)(A) and (e)(2)(i)(B) of this section.

(A) For a specified population of equipment to be imaged by the instrument, determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, within the distance to be used in paragraph (e)(2)(iv)(B) of this section, at or below the standard detection sensitivity level.

(B) Multiply the standard detection sensitivity level, corresponding to the selected monitoring frequency in Table 1 of subpart A of this part, by the mass fraction of detectable chemicals from the stream identified in paragraph (e)(2)(i)(A) of this section to determine the mass flow rate to be used in the daily instrument check, using the following equation.

$$E_{dic} = (E_{sds}) \sum_{i=1}^k x_i$$

Where:

$E_{dic}$  = Mass flow rate for the daily instrument check, grams per hour

$x_i$  = Mass fraction of detectable chemical(s)  $i$  seen by the optical gas imaging instrument, within the distance to be used in paragraph (e)(2)(iv)(B) of this section, at or below the standard detection sensitivity level,  $E_{sds}$ .

$E_{sds}$  = Standard detection sensitivity level from Table 1 to subpart A, grams per hour

$k$  = Total number of detectable chemicals emitted from the leaking equipment and seen by the optical gas imaging instrument.

(ii) Start the optical gas imaging instrument according to the manufacturer's instructions, ensuring that all appropriate settings conform to the manufacturer's instructions.

(iii) Use any gas chosen by the user that can be viewed by the optical gas imaging instrument and that has a purity of no less than 98 percent.

(iv) Establish a mass flow rate by using the following procedures:

(A) Provide a source of gas where it will be in the field of view of the optical gas imaging instrument.

(B) Set up the optical gas imaging instrument at a recorded distance from the outlet or leak orifice of the flow meter that will not be exceeded in the actual performance of the leak survey. Do not exceed the operating parameters of the flow meter.

(C) Open the valve on the flow meter to set a flow rate that will create a mass emission rate equal to the mass rate calculated in paragraph (e)(2)(i) of this section while observing the gas flow through the optical gas imaging instrument viewfinder. When an image of the gas emission is seen through the viewfinder at the required emission rate, make a record of the reading on the flow meter.

(v) Repeat the procedures specified in paragraphs (e)(2)(ii) through (e)(2)(iv) of this section for each configuration of the optical gas imaging instrument used during the leak survey.

(vi) To use an alternative method to demonstrate daily instrument checks, apply to the Administrator for approval of the alternative under § 63.177 or § 63.178, whichever is applicable.

(3) *Leak survey procedure.* Operate the optical gas imaging instrument to image every regulated

piece of equipment selected for this work practice in accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and are subject to repair. All emissions visible to the naked eye are also considered to be leaks and are subject to repair.

(4) *Recordkeeping.* Keep the records described in paragraphs (e)(4)(i) through (e)(4)(vii) of this section:

(i) The equipment, processes, and facilities for which the owner or operator chooses to use the alternative work practice.

(ii) The detection sensitivity level selected from Table 1 to subpart A of this part for the optical gas imaging instrument.

(iii) The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, as specified in paragraph (e)(2)(i)(A) of this section.

(iv) The technical basis for the mass fraction of detectable chemicals used in the equation in paragraph (e)(2)(i)(B) of this section.

(v) The daily instrument check. Record the distance, per paragraph (e)(2)(iv)(B) of this section, and the flow meter reading, per paragraph (e)(2)(iv)(C) of this section, at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a time and date stamp for each daily instrument check. The video record must be kept for 5 years.

(vi) *Recordkeeping requirements in the applicable subpart.* A video record must be used to document the leak survey results. The video record must include a time and date stamp for each monitoring event. A video record can be used to meet the recordkeeping requirements of the applicable subparts if each piece of regulated equipment selected for this work practice can be identified in the video record. The video record must be kept for 5 years.

(vii) The results of the annual Method 21 screening required in paragraph (h)(7) of this section. Records must be kept for all regulated equipment specified in paragraph (h)(1) of this section. Records must identify the equipment screened, the screening value measured by Method 21, the time and date of the screening, and calibration information required in the existing applicable subparts.

(5) *Reporting.* Submit the reports required in the applicable subpart. Submit the records of the annual Method 21 screening required in paragraph (h)(7) of this section to the Administrator via e-mail to [CCG-AWP@EPA.GOV](mailto:CCG-AWP@EPA.GOV).

[59 FR 12430, Mar. 16, 1994, as amended at 63 FR 24444, May 4, 1998; 65 FR 62215, Oct. 17, 2000; 67 FR 16605, Apr. 5, 2002; 73 FR 78211, Dec. 22, 2008]

## **§ 63.12 State authority and delegations.**

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from—

(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;

(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals



prior to initiating construction, reconstruction, modification, or operation of such source; or

(3) Requiring emission reductions in excess of those specified in subpart D of this part as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.

(b)(1) Section 112(l) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements pursuant to section 112 for stationary sources located in that State. Because of the unique nature of radioactive material, delegation of authority to implement and enforce standards that control radionuclides may require separate approval.

(2) Subpart E of this part establishes procedures consistent with section 112(l) for the approval of State rules or programs to implement and enforce applicable Federal rules promulgated under the authority of section 112. Subpart E also establishes procedures for the review and withdrawal of section 112 implementation and enforcement authorities granted through a section 112(l) approval.

(c) All information required to be submitted to the EPA under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain Federal or State reporting requirement. The Administrator may permit all or some of the information to be submitted to the appropriate State agency only, instead of to the EPA and the State agency.

### **§ 63.13 Addresses of State air pollution control agencies and EPA Regional Offices.**

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted to the appropriate Regional Office of the U.S. Environmental Protection Agency indicated in the following list of EPA Regional Offices.

EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), Director, Office of Ecosystem Protection, 5 Post Office Square—Suite 100, Boston, MA 02109-3912.

EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Air and Waste Management Division, 26 Federal Plaza, New York, NY 10278.

EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, 1650 Arch Street, Philadelphia, PA 19103.

EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Director, Air, Pesticides and Toxics Management Division, Atlanta Federal Center, 61 Forsyth Street, Atlanta, GA 30303-3104.

**EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, 77 West Jackson Blvd., Chicago, IL 60604-3507.**

EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas), Director, Air, Pesticides and Toxics, 1445 Ross Avenue, Dallas, TX 75202-2733.

EPA Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air, RCRA, and Toxics Division, U.S. Environmental Protection Agency, 901 N. 5th Street, Kansas City, KS 66101.

EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming) Director, Air and Toxics Technical Enforcement Program, Office of Enforcement, Compliance and Environmental Justice, Mail Code 8ENF-AT, 1595 Wynkoop Street, Denver, CO 80202-1129.

EPA Region IX (Arizona, California, Hawaii, Nevada; the territories of American Samoa and Guam; the Commonwealth of the Northern Mariana Islands; the territories of Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Atoll, Palmyra Atoll, and Wake Islands; and certain U.S. Government activities in the freely associated states of the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau), Director, Air Division, 75 Hawthorne Street, San Francisco, CA

94105.

EPA Region X (Alaska, Idaho, Oregon, Washington), Director, Office of Air Quality, 1200 Sixth Avenue (OAQ-107), Seattle, WA 98101.

(b) All information required to be submitted to the Administrator under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The owner or operator of an affected source may contact the appropriate EPA Regional Office for the mailing addresses for those States whose delegation requests have been approved.

(c) If any State requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in this part, an owner or operator may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of this part for that communication.

[59 FR 12430, Mar. 16, 1994, as amended at 63 FR 66061, Dec. 1, 1998; 67 FR 4184, Jan. 29, 2002; 68 FR 32601, May 30, 2003; 68 FR 35792, June 17, 2003; 73 FR 24871, May 6, 2008; 75 FR 69532, Nov. 12, 2010; 76 FR 49673, Aug. 11, 2011]

#### **§ 63.14 Incorporations by reference.**

[Link to an amendment published at 76 FR 15662, Mar. 21, 2011.](#)

[Link to a delay published at 76 FR 28664, May 18, 2011.](#)

(a) The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the FEDERAL REGISTER. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the National Archives and Records Administration (NARA), at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC, and at the EPA Library (MD-35), U.S. EPA, Research Triangle Park, North Carolina. For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(b) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959, Telephone (610) 832-9585, and are also available at the following Web site: <http://www.astm.org> ; or ProQuest, 789 East Eisenhower Parkway, Ann Arbor, MI 48106-1346, Telephone (734) 761-4700, and are also available at the following Web site: <http://www.proquest.com> .

(1) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for § 63.782.

(2) ASTM D1193-77, 91, Standard Specification for Reagent Water, IBR approved for appendix A: Method 306, Sections 7.1.1 and 7.4.2.

(3) ASTM D1331-89, Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents, IBR approved for appendix A: Method 306B, Sections 6.2, 11.1, and 12.2.2.

(4) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for § 63.788, appendix A.

(5) ASTM D1946-77, 90, 94, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for § 63.11(b)(6).

(6) ASTM D2369-93, 95, Standard Test Method for Volatile Content of Coatings, IBR approved for § 63.788, appendix A.

(7) ASTM D2382-76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for § 63.11(b)(6).

(8) ASTM D2879-83, Standard Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, approved 1983, IBR approved for §§ 63.111, 63.2406, and 63.12005.

(9) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for § 63.786(b).

(10) ASTM 3695-88, Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography, IBR approved for § 63.365(e)(1) of subpart O.

(11) ASTM D3792-91, Standard Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for § 63.788, appendix A.

(12) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(13) ASTM D4017-90, 96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for § 63.788, appendix A.

(14) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(15) ASTM D4256-89, 94, Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(16) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for § 63.11(b)(6).

(17) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for § 63.786(b).

(18) ASTM E260-91, 96, General Practice for Packed Column Gas Chromatography, IBR approved for §§ 63.750(b)(2) and 63.786(b)(5).

(19) ASTM D95-05 (Reapproved 2010), Standard Test Method for Water in Petroleum Products and Bituminous Materials by Distillation, approved May 1, 2010, IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.

(20) ASTM Method D388-05, Standard Classification of Coals by Rank, approved September 15, 2005, IBR approved for § 63.10042.

(21) ASTM D2099-00, Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester, IBR approved for § 63.5350.

(22) ASTM Method D396-10, Standard Specification for Fuel Oils, including Appendix X1, approved October 1, 2010, IBR approved for § 63.10042.

(23) ASTM D4006-11, Standard Test Method for Water in Crude Oil by Distillation, including Annex A1 and Appendix X1, approved June 1, 2011, IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.

(24) ASTM D2697-86 (Reapproved 1998), "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings," IBR approved for §§ 63.3161(f)(1), 63.3521(b)(1), 63.3941(b)(1), 63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(25) ASTM D6093-97 (Reapproved 2003), "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer," IBR approved for §§ 63.3161(f)(1), 63.3521(b)(1), 63.3941(b)(1), 63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(26) ASTM D1475-98 (Reapproved 2003), "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products," IBR approved for §§ 63.3151(b), 63.3941(b)(4), 63.3941(c), 63.3951(c), 63.4141(b)(3), 63.4141(c), and 63.4551(c).

(27) ASTM D6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for § 63.9307(c)(2).

(28) ASTM D6420-99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (Approved October 1, 2004), IBR approved for §§ 60.485(g), 60.485a(g), 63.457(b), 63.772(a) and (e), 63.1282(a) and (d), 63.2351(b), 63.2354(b) and table 8 to subpart HHHHHH of this part.

(29) ASTM D6420-99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for §§ 63.5799 and 63.5850.

(30) ASTM E 515-95 (Reapproved 2000), Standard Test Method for Leaks Using Bubble Emission Techniques, IBR approved for § 63.425(i)(2).

(31) ASTM D5291-02, Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants, IBR approved for § 63.3981, appendix A.

(32) ASTM D5965-02, "Standard Test Methods for Specific Gravity of Coating Powders," IBR approved for §§ 63.3151(b) and 63.3951(c).

(33) ASTM D6053-00, Standard Test Method for Determination of Volatile Organic Compound (VOC) Content of Electrical Insulating Varnishes, IBR approved for § 63.3981, appendix A.

(34) E145-94 (Reapproved 2001), Standard Specification for Gravity-Convection and Forced-Ventilation Ovens, IBR approved for § 63.4581, appendix A.

(35) ASTM D6784-02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008, IBR approved for table 1 to subpart DDDDD of this part, table 2 to subpart DDDDD of this part, table 5 to subpart DDDDD, table 11 to subpart DDDDD of this part, table 12 to subpart DDDDD of this part, table 13 to subpart DDDDD of this part, and table 4 to subpart JJJJJ of this part.

(36) ASTM D5066-91 (Reapproved 2001), "Standard Test Method for Determination of the Transfer Efficiency Under Production Conditions for Spray Application of Automotive Paints-Weight Basis," IBR approved for § 63.3161(g).

(37) ASTM D5087-02, "Standard Test Method for Determining Amount of Volatile Organic Compound (VOC) Released from Solventborne Automotive Coatings and Available for Removal in a

VOC Control Device (Abatement)," IBR approved for §§ 63.3165(e) and 63.3176, appendix A.

(38) ASTM D6266-00a, "Test Method for Determining the Amount of Volatile Organic Compound (VOC) Released from Waterborne Automotive Coatings and Available for Removal in a VOC Control Device (Abatement)," IBR approved for § 63.3165(e).

(39) ASTM Method D388-05, Standard Classification of Coals by Rank, approved September 15, 2005, IBR approved for § 63.7575 and § 63.11237.

(40) ASTM D396-10 Standard Specification for Fuel Oils, approved October 1, 2010, IBR approved for § 63.7575 and § 63.11237.

(41) ASTM Method D1835-05, Standard Specification for Liquefied Petroleum (LP) Gases, approved April 1, 2005, IBR approved for § 63.7575 and § 63.11237.

(42) ASTM D2013/D2013M-09 Standard Practice for Preparing Coal Samples for Analysis, approved November 1, 2009, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJ of this part.

(43) ASTM D2234/D2234M-10 Standard Practice for Collection of a Gross Sample of Coal, approved January 1, 2010, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJ of this part.

(44) ASTM D3173-03 (Reapproved 2008) Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, approved February 1, 2008, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJ of this part.

(45) ASTM D2879-96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, approved 1996, IBR approved for §§ 63.111, 63.2406, and 63.12005.

(46) ASTM D4606-03 (2007), Standard Test Method for Determination of Arsenic and Selenium in Coal by the Hydride Generation/Atomic Absorption Method, approved October 1, 2007, IBR approved for table 6 to subpart DDDDD.

(47) ASTM D5198-09 Standard Practice for Nitric Acid Digestion of Solid Waste, approved February 1, 2009, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJ of this part.

(48) ASTM D5865-10a Standard Test Method for Gross Calorific Value of Coal and Coke, approved May 1, 2010, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJ of this part.

(49) ASTM D6323-98 (Reapproved 2003), Standard Guide for Laboratory Subsampling of Media Related to Waste Management Activities, approved August 10, 2003, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJ of this part.

(50) ASTM E711-87 (Reapproved 2004) Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter, approved August 28, 1987, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJ of this part.

(51) ASTM E776-87 (Reapproved 2009) Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel, approved July 1, 2009, IBR approved for table 6 to subpart DDDDD of this part.

(52) ASTM E871-82 (Reapproved 2006) Standard Test Method for Moisture Analysis of Particulate Wood Fuels, approved November 1, 2006, IBR approved for table 6 to subpart DDDDD of this part and

table 5 to subpart JJJJJJ of this part.

(53) [Reserved]

(54) ASTM D6348-03, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, approved 2003, IBR approved for §§ 63.457, 63.1349, table 4 to subpart DDDD of this part, table 4 to subpart ZZZZ of this part, and table 8 to subpart HHHHHHH of this part.

(55) ASTM D6357-11, Test Methods for Determination of Trace Elements in Coal, Coke, and Combustion Residues from Coal Utilization Processes by Inductively Coupled Plasma Atomic Emission Spectrometry, approved April 1, 2011, IBR approved for table 6 to subpart DDDDD.

(56) [Reserved]

(57) ASTM D6721-01 (Reapproved 2006) Standard Test Method for Determination of Chlorine in Coal by Oxidative Hydrolysis Microcoulometry, approved April 1, 2006, IBR approved for table 6 to subpart DDDDD of this part.

(58)-(60) [Reserved]

(61) ASTM D6722-01 (Reapproved 2006) Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by the Direct Combustion Analysis, approved April 1, 2006, IBR approved for Table 6 to subpart DDDDD and Table 5 to subpart JJJJJJ of this part.

(62) [Reserved]

(63) ASTM D2216-05, "Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass," IBR approved for the definition of "Free organic liquids" in § 63.10692.

(64) ASTM D6522-00 (Reapproved 2005), Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, approved October 1, 2005, IBR approved for table 4 to subpart ZZZZ of this part, table 5 to subpart DDDDD of this part, table 4 to subpart JJJJJJ of this part and §§ 63.772(e), 63.772(h), 63.1282(d) and 63.1282(g).

(65) ASTM D 5228-92—"Standard Test Method for Determination of Butane Working Capacity of Activated Carbon," reapproved 2005, IBR approved for § 63.11092(b)(1)(i)(B)( 1 )( ii ).

(66) ASTM D6784-02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008, IBR approved for § 63.11646(a)(1)(vi), § 63.11647(a)(1)(ii), § 63.11647(a)(3)(ii), and § 63.11647(d).

(67) ASTM D5954-98 (Reapproved 2006), Test Method for Mercury Sampling and Measurement in Natural Gas by Atomic Absorption Spectroscopy, approved December 1, 2006, IBR approved for table 6 to subpart DDDDD of this part.

(68) ASTM D6350-98 (Reapproved 2003) Standard Test Method for Mercury Sampling and Analysis in Natural Gas by Atomic Fluorescence Spectroscopy, approved May 10, 2003, IBR approved for table 6 to subpart DDDDD of this part.

(69) ASTM D4057-06 (Reapproved 2011), Standard Practice for Manual Sampling of Petroleum and Petroleum Products, including Annex A1, approved June 1, 2011, IBR approved for § 63.10005(i)

and table 6 to subpart DDDDD.

(70) ASTM D4177-95 (Reapproved 2010), Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, including Annexes A1 through A6 and Appendices X1 and X2, approved May 1, 2010, IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.

(71) ASTM D6348-03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, approved October 1, 2010, IBR approved for table 1 to subpart UUUUU of this part, table 2 to subpart UUUUU of this part, table 5 to subpart UUUUU of this part, and appendix B to subpart UUUUU of this part.

(72) ASTM D6784-02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008, IBR approved for table 5 to subpart UUUUU of this part, and appendix A to subpart UUUUU of this part.

(73) ASTM D1945-03 (Reapproved 2010) Standard Test Method for Analysis of Natural Gas by Gas Chromatography (Approved January 1, 2010), IBR approved for §§ 63.772(h) and 63.1282(g).

(74) ASTM D3588-98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels (Approved May 10, 2003), IBR approved for §§ 63.772(h) and 63.1282(g).

(75) ASTM D4891-89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion (Approved June 1, 2006), IBR approved for §§ 63.772(h) and 63.1282(g).

(76) ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, approved July 15, 2011, IBR approved for § 63.7575 and § 63.11237.

(77) ASTM D975-11b, Standard Specification for Diesel Fuel Oils, approved December 1, 2011, IBR approved for § 63.7575.

(78) ASTM D5864-11 Standard Test Method for Determining Aerobic Aquatic Biodegradation of Lubricants or Their Components, approved March 1, 2011, IBR approved for table 6 to subpart DDDDD.

(79) ASTM D240-09 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, approved July 1, 2009, IBR approved for table 6 to subpart DDDDD.

(80) ASTM D4208-02(2007) Standard Test Method for Total Chlorine in Coal by the Oxygen Bomb Combustion/Ion Selective Electrode Method, approved May 1, 2007, IBR approved for table 6 to subpart DDDDD.

(81) ASTM D5192-09 Standard Practice for Collection of Coal Samples from Core, approved June 1, 2009, IBR approved for table 6 to subpart DDDDD.

(82) ASTM D7430-11ae1, Standard Practice for Mechanical Sampling of Coal, approved October 1, 2011, IBR approved for table 6 to subpart DDDDD.

(83) ASTM D6883-04, Standard Practice for Manual Sampling of Stationary Coal from Railroad Cars, Barges, Trucks, or Stockpiles, approved June 1, 2004, IBR approved for table 6 to subpart DDDDD.

(c) The materials listed below are available for purchase from the American Petroleum Institute (API), 1220 L Street, NW., Washington, DC 20005.

(1) API Publication 2517, *Evaporative Loss from External Floating-Roof Tanks*, Third Edition, February 1989, IBR approved for § 63.111 and § 63.2406.

(2) API Publication 2518, *Evaporative Loss from Fixed-roof Tanks*, Second Edition, October 1991, IBR approved for § 63.150(g)(3)(i)(C) of subpart G of this part.

(3) API Manual of Petroleum Measurement Specifications (MPMS) Chapter 19.2 (API MPMS 19.2), *Evaporative Loss From Floating-Roof Tanks* (formerly API Publications 2517 and 2519), First Edition, April 1997, IBR approved for §§ 63.1251 and 63.12005.

(d) *State and Local Requirements*. The following materials listed below are available at the Air and Radiation Docket and Information Center, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, telephone number (202) 566-1745.

(1) *California Regulatory Requirements Applicable to the Air Toxics Program*, November 16, 2010, IBR approved for § 63.99(a)(5)(ii) of subpart E of this part.

(2) New Jersey's *Toxic Catastrophe Prevention Act Program*, (July 20, 1998), Incorporation By Reference approved for § 63.99 (a)(30)(i) of subpart E of this part.

(3)(i) Letter of June 7, 1999 to the U.S. Environmental Protection Agency Region 3 from the Delaware Department of Natural Resources and Environmental Control requesting formal full delegation to take over primary responsibility for implementation and enforcement of the Chemical Accident Prevention Program under Section 112(r) of the Clean Air Act Amendments of 1990.

(ii) Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, *Accidental Release Prevention Regulation*, sections 1 through 5 and sections 7 through 14, effective January 11, 1999, IBR approved for § 63.99(a)(8)(i) of subpart E of this part.

(iii) State of Delaware Regulations Governing the Control of Air Pollution (October 2000), IBR approved for § 63.99(a)(8)(ii)-(v) of subpart E of this part.

(4) Massachusetts Department of Environmental Protection regulations at 310 CMR 7.26(10)-(16), *Air Pollution Control*, effective as of September 5, 2008, corrected March 6, 2009, and 310 CMR 70.00, *Environmental Results Program Certification*, effective as of December 28, 2007. Incorporation By Reference approved for § 63.99(a)(22)(ii) of subpart E of this part.

(5)(i) New Hampshire Regulations at Env-Sw 2100, *Management and Control of Asbestos Disposal Sites Not Operated* after July 9, 1981, effective February 16, 2010 (including a letter from Thomas S. Burack, Commissioner, Department of Environmental Services, State of New Hampshire, to Carol J. Holahan, Director, Office of Legislative Services, dated February 12, 2010, certifying that the enclosed rule, Env-Sw 2100, is the official version of this rule). Incorporation By Reference approved for § 63.99(a).

(ii) New Hampshire Regulations at Env-A 1800, *Asbestos Management and Control*, effective October 21, 2008, Sections 1801-1807, excluding the following provisions: 1801.02(e), 1802.02, 1802.04, 1802.07-1802.09, 1802.13, 1802.15-1802.17, 1802.28-1802.29, 1802.36, 1802.42, 1802.45, 1802.50, 1802.54, 1804.05-1804.09, 1807.02 (including a letter from Thomas S. Burack, Commissioner, Department of Environmental Services, State of New Hampshire, to Carol J. Holahan, Director, Office of Legislative Services, dated November 14, 2008, certifying that the enclosed rule, Env-A 1800, is the official version of this rule). Incorporation By Reference approved for § 63.99(a).

(6) Maine Department of Environmental Protection regulations at Chapter 125, *Perchloroethylene Dry Cleaner Regulation*, effective as of June 2, 1991, last amended on June 24, 2009. Incorporation By Reference approved for § 63.99(a)(20)(iii) of subpart E of this part.



(7) California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989," IBR approved for § 63.11173(e) and § 63.11516(d).

(8) California South Coast Air Quality Management District's "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002," Revision 0, IBR approved for §§ 63.11173(e) and 63.11516(d).

(9) Rhode Island Department of Environmental Management regulations at Air Pollution Control Regulation No. 36, Control of Emissions from Organic Solvent Cleaning, effective April 8, 1996, last amended October 9, 2008, and Rhode Island Air Pollution Control, General Definitions Regulation, effective July 19, 2007, last amended October 9, 2008. Incorporation By Reference approved for § 63.99(a)(40)(ii) of subpart E of this part.

(10) Alaska Statute, Title 42—Public Utilities And Carriers And Energy Programs, Chapter 45—Rural and Statewide Energy Programs, Article 1, Power Assistance Programs, Sec. 42.45.045. Renewable energy grant fund and recommendation program, effective May 3, 2012, available at <http://www.legis.state.ak.us/basis/folio.asp> , IBR approved for § 63.6675.

(e) The materials listed below are available for purchase from the National Institute of Standards and Technology, Springfield, VA 22161, (800) 553-6847.

(1) Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for § 63.1303(e)(3).

(2) [Reserved]

(f) The following material is available from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P.O. Box 133318, Research Triangle Park, NC 27709-3318 or at <http://www.ncasi.org>.

(1) NCASI Method DI/MEOH-94.03, Methanol in Process Liquids and Wastewaters by GC/FID, Issued May 2000, IBR approved for §§ 63.457 and 63.459 of subpart S of this part.

(2) NCASI Method CI/WP-98.01, Chilled Impinger Method For Use At Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol, 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for table 4 to subpart DDDD of this part.

(3) NCASI Method DI/HAPS-99.01, Selected HAPs In Condensates by GC/FID, Issued February 2000, IBR approved for § 63.459(b) of subpart S of this part.

(4) NCASI Method IM/CAN/WP-99.02, Impinger/Canister Source Sampling Method for Selected HAPs and Other Compounds at Wood Products Facilities, January 2004, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for table 4 to subpart DDDD of this part.

(5) NCASI Method ISS/FP A105.01, Impinger Source Sampling Method for Selected Aldehydes, Ketones, and Polar Compounds, December 2005, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for table 4 to subpart DDDD of this part.

(g) The materials listed below are available for purchase from AOAC International, Customer Services, Suite 400, 2200 Wilson Boulevard, Arlington, Virginia, 22201-3301, Telephone (703) 522-3032, Fax (703) 522-5468.

(1) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(2) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium

Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(3) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(4) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(5) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(6) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(7) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(h) The materials listed below are available for purchase from The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida, 33830, Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991, IBR.

(1) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(2) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus— $P_2O_5$  or  $Ca_3(PO_4)_2$ , Method A—Volumetric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(3) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus— $P_2O_5$  or  $Ca_3(PO_4)_2$ , Method B—Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(4) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus— $P_2O_5$  or  $Ca_3(PO_4)_2$ , Method C—Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(5) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus— $P_2O_5$ , Method A—Volumetric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(6) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus— $P_2O_5$ , Method B—Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(7) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus— $P_2O_5$ , Method C—Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(i) The following material is available for purchase from at least one of the following addresses: American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990, Telephone (800) 843-2763, and are also available at the following Web site: <http://www.asme.org>; or HIS, Incorporated, 15 Inverness Way East, Englewood, CO 80112, Telephone (877) 413-5184, and are also available at the following Web site: <http://global.ihs.com>.

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

table 4 to subpart JJJJJ of this part, table 5 to subpart UUUUU of this part, and table 1 to subpart ZZZZZ of this part.

(2) [Reserved]

(j) The following material is available for purchase from: British Standards Institute, 389 Chiswick High Road, London W4 4AL, United Kingdom.

(1) BS EN 1593:1999, Non-destructive Testing: Leak Testing—Bubble Emission Techniques, IBR approved for § 63.425(i)(2).

(2) [Reserved]

(k) The following materials are available for purchase from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000 or (800) 553-6847; or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800:

(1) The following methods as published in the test methods compendium known as “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, Third Edition. A suffix of “A” in the method number indicates revision one (the method has been revised once). A suffix of “B” in the method number indicates revision two (the method has been revised twice).

(i) Method 0023A, “Sampling Method for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofuran Emissions from Stationary Sources,” dated December 1996, IBR approved for § 63.1208(b)(1) of subpart EEE of this part.

(ii) Method 9071B, “n-Hexane Extractable Material (HEM) for Sludge, Sediment, and Solid Samples,” dated April 1998, IBR approved for § 63.7824(e) of subpart FFFFF of this part.

(iii) Method 9095A, “Paint Filter Liquids Test,” dated December 1996, IBR approved for §§ 63.7700(b) and 63.7765 of subpart EEEEE of this part.

(iv) Method 9095B, “Paint Filter Liquids Test,” (revision 2), dated November 2004, IBR approved for the definition of “Free organic liquids” in § 63.10692, § 63.10885(a)(1), and the definition of “Free liquids” in § 63.10906.

(v) SW-846 Method 74741B, Revision 2, “Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique)” February 2007, IBR approved for § 63.11647(f)(2).

(2) The following method as published in the National Institute of Occupational Safety and Health (NIOSH) test method compendium, “NIOSH Manual of Analytical Methods”, NIOSH publication no. 94-113, Fourth Edition, August 15, 1994.

(i) NIOSH Method 2010, “Amines, Aliphatic,” Issue 2, August 15, 1994, IBR approved for § 63.7732(g)(1)(v) of subpart EEEEE of this part.

(ii) [Reserved]

(l) The following materials are available for purchase from the American Society of Heating, Refrigerating, and Air-Conditioning Engineers at 1791 Tullie Circle, NE., Atlanta, GA 30329 or by electronic mail at [orders@ashrae.org](mailto:orders@ashrae.org):

(1) American Society of Heating, Refrigerating, and Air Conditioning Engineers Method 52.1, “Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992,” IBR approved for §§ 63.11173(e) and 63.11516(d).

(2) [Reserved]

(m) The following materials are available from the California Air Resources Board, Engineering and Certification Branch, 1001 I Street, P.O. Box 2815, Sacramento, CA 95812-2815, Telephone (916) 327-0900 and are also available at the following Web site: <http://www.arb.ca.gov/vapor/vapor.htm>.

(1) California Air Resources Board Vapor Recovery Test Procedure TP-201.1.—“Volumetric Efficiency for Phase I Vapor Recovery Systems,” adopted April 12, 1996, and amended February 1, 2001 and October 8, 2003, IBR approved for § 63.11120(b)(1).

(2) California Air Resources Board Vapor Recovery Test Procedure TP-201.1E—“Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves,” adopted October 8, 2003, IBR approved for § 63.11120(a)(1)(i).

(3) California Air Resources Board Vapor Recovery Test Procedure TP-201.3—“Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities,” adopted April 12, 1996 and amended March 17, 1999, IBR approved for § 63.11120(a)(2)(i).

(n) The following material is available from the Texas Commission on Environmental Quality (TCEQ) Library, Post Office Box 13087, Austin, Texas 78711-3087, telephone number (512) 239-0028 or at [http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp\\_ado.pdf](http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp_ado.pdf) :

(1) “Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources” (Modified El Paso Method), Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, January 31, 2003, IBR approved for §§ 63.654 and 63.11920.

(2) [Reserved]

(o) The following material is available from the Bay Area Air Quality Management District (BAAQMD), 939 Ellis Street, San Francisco, California 94109, and is also available at the following Web site: <http://www.arb.ca.gov/DRDB/BA/CURHTML/ST/st30.pdf>.

(1) “BAAQMD Source Test Procedure ST-30—Static Pressure Integrity Test, Underground Storage Tanks,” adopted November 30, 1983, and amended December 21, 1994, IBR approved for § 63.11120(a)(2)(iii).

(2) [Reserved]

(p) The following material is available from the U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>.

(1) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants—Background Information for Proposed Standards, Final Report, EPA-453/R-01-005, January 2001, IBR approved for § 63.7491(g).

(2) Office Of Air Quality Planning And Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, EPA-454/R-98-015, September 1997, IBR approved for §§ 63.548(e)(4), 63.7525(j)(2), and 63.11224(f)(2).

(3) SW-846-3020A, Acid Digestion of Aqueous Samples And Extracts For Total Metals For Analysis By GFAA Spectroscopy, Revision 1, July 1992, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJ of this part.

(4) SW-846-3050B, Acid Digestion of Sediments, Sludges, And Soils, Revision 2, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(5) SW-846-7470A, Mercury In Liquid Waste (Manual Cold-Vapor Technique), Revision 1, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(6) SW-846-7471B, Mercury In Solid Or Semisolid Waste (Manual Cold-Vapor Technique), Revision 2, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(7) SW-846-9250, Chloride (Colorimetric, Automated Ferricyanide AAI), Revision 0, September 1986, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part.

(8) Method 8015C (SW-846-8015C), Nonhalogenated Organics by Gas Chromatography, Revision 3, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for §§ 63.11960, 63.11980, and table 10 to subpart HHHHHHH of this part.

(9) Method 8260B (SW-846-8260B), Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 2, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for §§ 63.11960, 63.11980, and table 10 to subpart HHHHHHH of this part.

(10) Method 8270D (SW-846-8270D), Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for §§ 63.11960, 63.11980, and table 10 to subpart HHHHHHH of this part.

(11) Method 8315A (SW-846-8315A), Determination of Carbonyl Compounds by High Performance Liquid Chromatography (HPLC), Revision 1, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for §§ 63.11960, 63.11980, and table 10 to subpart HHHHHHH of this part.

(12) Method 5050 (SW-846-5050), Bomb Preparation Method for Solid Waste, Revision 0, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition IBR approved for table 6 to subpart DDDDD.

(13) Method 9056 (SW-846-9056), Determination of Inorganic Anions by Ion Chromatography, Revision 1, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(14) Method 9076 (SW-846-9076), Test Method for Total Chlorine in New and Used Petroleum Products by Oxidative Combustion and Microcoulometry, Revision 0, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(15) Method 1631 Revision E, Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Absorption Fluorescence Spectrometry, Revision E, EPA-821-R-02-019, August 2002, IBR approved for table 6 to subpart DDDDD.

(16) Method 200.8, Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma—Mass Spectrometry, Revision 5.4, 1994, IBR approved for table 6 to subpart DDDDD.

(17) Method 6020A (SW-846-6020A), Inductively Coupled Plasma-Mass Spectrometry, Revision 1, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(18) Method 6010C (SW-846-6010C), Inductively Coupled Plasma-Atomic Emission Spectrometry, Revision 3, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(19) Method 7060A (SW-846-7060A), Arsenic (Atomic Absorption, Furnace Technique), Revision 1, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(20) Method 7740 (SW-846-7740), Selenium (Atomic Absorption, Furnace Technique), Revision 0, September 1986, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(q) The following material is available for purchase from the International Standards Organization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, +41 22 749 01 11, <http://www.iso.org/iso/home.htm>.

(1) ISO 6978-1:2003(E), Natural Gas—Determination of Mercury—Part 1: Sampling of Mercury by Chemisorption on Iodine, First edition, October 15, 2003, IBR approved for table 6 to subpart DDDDD of this part.

(2) ISO 6978-2:2003(E), Natural gas—Determination of Mercury—Part 2: Sampling of Mercury by Amalgamation on Gold/Platinum Alloy, First edition, October 15, 2003, IBR approved for table 6 to subpart DDDDD of this part.

(r) The following material is available for purchase from the Technical Association of the Pulp and Paper Industry (TAPPI), 15 Technology Parkway South, Norcross, GA 30092, (800) 332-8686, <http://www.tappi.org>.

(1) TAPPI T 266, Determination of Sodium, Calcium, Copper, Iron, and Manganese in Pulp and Paper by Atomic Absorption Spectroscopy (Reaffirmation of T 266 om-02), Draft No. 2, July 2006, IBR approved for table 6 to subpart DDDDD.

(2) [Reserved]

[59 FR 12430, Mar. 16, 1994]

(s) The following material is available from the North American Electric Reliability Corporation, 3353 Peachtree Road NE., Suite 600, North Tower, Atlanta, GA 30326, <http://www.nerc.com>, and is available at the following Web site: [http://www.nerc.com/files/EOP-002-3\\_1.pdf](http://www.nerc.com/files/EOP-002-3_1.pdf).

(1) North American Electric Reliability Corporation, Reliability Standards for the Bulk of Electric Systems of North America, Reliability Standard EOP-002-3, Capacity and Energy Emergencies, updated November 19, 2012, IBR approved for § 63.6640(f).

(2) [Reserved]

EDITORIAL NOTES: 1. For FEDERAL REGISTER citations affecting § 63.14, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.fdsys.gov](http://www.fdsys.gov).

2. At 76 FR 15589, Mar. 21, 2011, § 63.14 was amended by adding paragraph (b)(66), however, the amendment could not be incorporated because a paragraph (b)(66) already existed. For the convenience of the user, the added text is set forth as follows:

**§ 63.14 Incorporation by reference.**

\* \* \* \* \*

(b) \* \* \*

(66) ASTM D4084-07 Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), approved June 1, 2007, IBR approved for table 6 to subpart DDDDD of this part.

\* \* \* \* \*

**§ 63.15 Availability of information and confidentiality.**

(a) *Availability of information.* (1) With the exception of information protected through part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.

(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) *Confidentiality.* (1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.

(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

**§ 63.16 Performance Track Provisions.**

(a) Notwithstanding any other requirements in this part, an affected source at any major source or any area source at a Performance Track member facility, which is subject to regular periodic reporting under any subpart of this part, may submit such periodic reports at an interval that is twice the length of the regular period specified in the applicable subparts; provided, that for sources subject to permits under 40 CFR part 70 or 71 no interval so calculated for any report of the results of any required monitoring may be less frequent than once in every six months.

(b) Notwithstanding any other requirements in this part, the modifications of reporting requirements in paragraph (c) of this section apply to any major source at a Performance Track member facility which is subject to requirements under any of the subparts of this part and which has:

(1) Reduced its total HAP emissions to less than 25 tons per year;

(2) Reduced its emissions of each individual HAP to less than 10 tons per year; and

(3) Reduced emissions of all HAPs covered by each MACT standard to at least the level required for full compliance with the applicable emission standard.

(c) For affected sources at any area source at a Performance Track member facility and which meet the requirements of paragraph (b)(3) of this section, or for affected sources at any major source that meet the requirements of paragraph (b) of this section:

(1) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using add-on control technology, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is meeting the emission standard by continuing to use that control technology. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(2) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using pollution prevention, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions to levels at or below those required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(3) If the emission standard to which the affected source is subject is based on pollution prevention, and the affected source complies by using pollution prevention and reduces emissions by an additional 50 percent or greater than required by the applicable emission standard, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions by an additional 50 percent or greater than required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(4) Notwithstanding the provisions of paragraphs (c)(1) through (3), of this section, for sources subject to permits under 40 CFR part 70 or 71, the results of any required monitoring and recordkeeping must be reported not less frequently than once in every six months.

[69 FR 21753, Apr. 22, 2004]

**Table 1 to Subpart A of Part 63—Detection Sensitivity Levels (grams per hour)**

| Monitoring frequency per subpart <sup>a</sup> | Detection sensitivity level |
|-----------------------------------------------|-----------------------------|
| Bi-Monthly                                    | 60                          |
| Semi-Quarterly                                | 85                          |
| Monthly                                       | 100                         |

<sup>a</sup> When this alternative work practice is used to identify leaking equipment, the owner or operator must choose one of the monitoring frequencies listed in this table, in lieu of the monitoring frequency specified in the applicable subpart. Bi-monthly means every other month. Semi-quarterly means twice per quarter. Monthly means once per month.

[73 FR 78213, Dec. 22, 2008]



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Highlights for  
Existing Units

**ELECTRONIC CODE OF FEDERAL REGULATIONS****e-CFR data is current as of May 26, 2015**[Title 40](#) → [Chapter I](#) → [Subchapter C](#) → [Part 63](#) → [Subpart JJJJJJ](#)

Title 40: Protection of Environment

[PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES \(CONTINUED\)](#)**Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources****Contents**[WHAT THIS SUBPART COVERS](#)

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[EMISSION LIMITS, WORK PRACTICE STANDARDS, EMISSION REDUCTION MEASURES, AND MANAGEMENT PRACTICES](#)

- [§63.11200](#) What are the subcategories of boilers?
- [§63.11201](#) What standards must I meet?

[GENERAL COMPLIANCE REQUIREMENTS](#)

- [§63.11205](#) What are my general requirements for complying with this subpart?

[INITIAL COMPLIANCE REQUIREMENTS](#)

- [§63.11210](#) What are my initial compliance requirements and by what date must I conduct them?
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- [§63.11212](#) What stack tests and procedures must I use for the performance tests?
- [§63.11213](#) What fuel analyses and procedures must I use for the performance tests?
- [§63.11214](#) How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

[CONTINUOUS COMPLIANCE REQUIREMENTS](#)

- [§63.11220](#) When must I conduct subsequent performance tests or fuel analyses?
- [§63.11221](#) Is there a minimum amount of monitoring data I must obtain?
- [§63.11222](#) How do I demonstrate continuous compliance with the emission limits?
- [§63.11223](#) How do I demonstrate continuous compliance with the work practice and management practice standards?
- [§63.11224](#) What are my monitoring, installation, operation, and maintenance requirements?
- [§63.11225](#) What are my notification, reporting, and recordkeeping requirements?
- [§63.11226](#) Affirmative defense for violation of emission standards during malfunction.

[OTHER REQUIREMENTS AND INFORMATION](#)

- [§63.11235](#) What parts of the General Provisions apply to me?
- [§63.11236](#) Who implements and enforces this subpart?
- [§63.11237](#) What definitions apply to this subpart?
- [Table 1 to Subpart JJJJJJ of Part 63—Emission Limits](#)
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- [Table 3 to Subpart JJJJJJ of Part 63—Operating Limits for Boilers With Emission Limits](#)
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- [Table 7 to Subpart JJJJJJ of Part 63—Demonstrating Continuous Compliance](#)
- [Table 8 to Subpart JJJJJJ of Part 63—Applicability of General Provisions to Subpart JJJJJJ](#)

SOURCE: 76 FR 15591, Mar. 21, 2011, unless otherwise noted.

[⬆ Back to Top](#)**WHAT THIS SUBPART COVERS**[⬆ Back to Top](#)**§63.11193 Am I subject to this subpart?**

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in §63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in §63.2, except as specified in §63.11195.

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#### §63.11194 What is the affected source of this subpart?

- (a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section.
- (1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers within a subcategory, as listed in §63.11200 and defined in §63.11237, located at an area source.
- (2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in §63.11200 and as defined in §63.11237, located at an area source.
- (b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010.
- (c) An affected source is a new source if you commenced construction of the affected source after June 4, 2010, and the boiler meets the applicability criteria at the time you commence construction.
- (d) An affected source is a reconstructed source if the boiler meets the reconstruction criteria as defined in §63.2, you commenced reconstruction after June 4, 2010, and the boiler meets the applicability criteria at the time you commence reconstruction.
- (e) An existing dual-fuel fired boiler meeting the definition of gas-fired boiler, as defined in §63.11237, that meets the applicability requirements of this subpart after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel.
- (f) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or part 71 as a result of this subpart. You may, however, be required to obtain a title V permit due to another reason or reasons. See 40 CFR 70.3(a) and (b) or 71.3(a) and (b). Notwithstanding the exemption from title V permitting for area sources under this subpart, you must continue to comply with the provisions of this subpart.

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#### §63.11195 Are any boilers not subject to this subpart?

- The types of boilers listed in paragraphs (a) through (k) of this section are not subject to this subpart and to any requirements in this subpart.
- (a) Any boiler specifically listed as, or included in the definition of, an affected source in another standard(s) under this part.
- (b) Any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act.
- (c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers), unless such units do not combust hazardous waste and combust comparable fuels.
- (d) A boiler that is used specifically for research and development. This exemption does not include boilers that solely or primarily provide steam (or heat) to a process or for heating at a research and development facility. This exemption does not prohibit the use of the steam (or heat) generated from the boiler during research and development, however, the boiler must be concurrently and primarily engaged in research and development for the exemption to apply.
- (e) A gas-fired boiler as defined in this subpart.
- (f) A hot water heater as defined in this subpart.
- (g) Any boiler that is used as a control device to comply with another subpart of this part, or part 60, part 61, or part 65 of this chapter provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler is provided by regulated gas streams that are subject to another standard.
- (h) Temporary boilers as defined in this subpart.
- (i) Residential boilers as defined in this subpart.
- (j) Electric boilers as defined in this subpart.
- (k) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part.

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#### §63.11196 What are my compliance dates?

- (a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.
- (1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.
- (2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.
- (3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.

Recent fuel usage meets this definition.

See initial compliance requirements in 63.11210(h)

(b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011.

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in §63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD.

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## EMISSION LIMITS, WORK PRACTICE STANDARDS, EMISSION REDUCTION MEASURES, AND MANAGEMENT PRACTICES

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### §63.11200 What are the subcategories of boilers?

The subcategories of boilers, as defined in §63.11237 are:

- (a) Coal.
- (b) Biomass.
- (c) Oil.
- (d) Seasonal boilers.
- (e) Oil-fired boilers with heat input capacity of equal to or less than 5 million British thermal units (Btu) per hour.
- (f) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.
- (g) Limited-use boilers.

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### §63.11201 What standards must I meet?

(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.

(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.

(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in §63.11237, during which time you must comply only with Table 2 to this subpart.

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## GENERAL COMPLIANCE REQUIREMENTS

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### §63.11205 What are my general requirements for complying with this subpart?

(a) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(b) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to §63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of §63.11224.

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

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

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i).

(2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

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## INITIAL COMPLIANCE REQUIREMENTS

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### §63.11210 What are my initial compliance requirements and by what date must I conduct them?

(a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to §63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to §63.11213 and Table 5 to this subpart.

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (j) of this section.

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (j) of this section.

(d) For new or reconstructed affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(e) For new or reconstructed oil-fired boilers that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce particulate matter (PM) or sulfur dioxide emissions, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within 60 days of burning the new fuel.

(f) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in §63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

(g) For affected boilers that ceased burning solid waste consistent with §63.11196(d) and for which your initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.

(h) For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within subpart JJJJJ or the boiler becoming subject to subpart JJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes must be submitted according to §63.11225(g).

(i) For boilers located at existing major sources of HAP that limit their potential to emit (e.g., make a physical change or take a permit limit) such that the existing major source becomes an area source, you must comply with the applicable provisions as specified in paragraphs (i)(1) through (3) of this section.

(1) Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source.

(2) Any new or reconstructed boiler at the existing source must demonstrate compliance with subpart JJJJJ within 180 days of the later of March 21, 2011 or startup.

(3) Notification of such changes must be submitted according to §63.11225(g).

(j) For existing affected boilers that have not operated between the effective date of the rule and the compliance date that is specified for your source in §63.11196, you must comply with the applicable provisions as specified in paragraphs (j)(1) through (3) of this section.

(1) You must complete the initial compliance demonstration, if subject to the emission limits in Table 1 to this subpart, as specified in paragraphs (a) and (b) of this section, no later than 180 days after the re-start of the affected boiler and according to the applicable provisions in §63.7(a)(2).

(2) You must complete the initial performance tune-up, if subject to the tune-up requirements in §63.11223, by following the procedures described in §63.11223(b) no later than 30 days after the re-start of the affected boiler.

(3) You must complete the one-time energy assessment, if subject to the energy assessment requirements specified in Table 2 to this subpart, no later than the compliance date specified in §63.11196.

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#### **§63.11211 How do I demonstrate initial compliance with the emission limits?**

(a) For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to §63.11212 and Table 4 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler according to §63.11213 and Table 5 to this subpart, establishing operating limits according to §63.11222, Table 6 to this subpart and paragraph (b) of this section, as applicable, and conducting CMS performance evaluations according to §63.11224. For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.11213 and Table 5 to this subpart.

(b) You must establish parameter operating limits according to paragraphs (b)(1) through (4) of this section.

(1) For a wet scrubber, you must establish the minimum scrubber liquid flow rate and minimum scrubber pressure drop as defined in §63.11237, as your operating limits during the three-run performance stack test. If you use a wet scrubber and you conduct separate performance stack tests for PM and mercury emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. If you conduct multiple performance stack tests, you must set the minimum scrubber liquid flow rate and pressure drop operating limits at the highest minimum values established during the performance stack tests.

(2) For an electrostatic precipitator operated with a wet scrubber, you must establish the minimum total secondary electric power (secondary voltage and secondary current), as defined in §63.11237, as your operating limits during the three-run performance stack test.

(3) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in §63.11237, as your operating limit during the three-run performance stack test.

(4) The operating limit for boilers with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in §63.11224, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(c) If you elect to demonstrate compliance with an applicable mercury emission limit through fuel analysis, you must conduct fuel analyses according to §63.11213 and Table 5 to this subpart and follow the procedures in paragraphs (c)(1) through (3) of this section.

(1) If you burn more than one fuel type, you must determine the fuel type, or mixture, you could burn in your boiler that would result in the maximum emission rates of mercury.

(2) You must determine the 90th percentile confidence level fuel mercury concentration of the composite samples analyzed for each fuel type using Equation 1 of this section.

$$P_{90} = \text{mean} + (SD * t) \quad (\text{Eq. 1})$$

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Where:

$P_{90}$  = 90th percentile confidence level mercury concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel mercury concentration in the fuel samples analyzed according to §63.11213, in units of pounds per million Btu.

SD = Standard deviation of the mercury concentration in the fuel samples analyzed according to §63.11213, in units of pounds per million Btu.

$t$  =  $t$  distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable mercury emission limit, the emission rate that you calculate for your boiler using Equation 1 of this section must be less than the applicable mercury emission limit.

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#### **§63.11212 What stack tests and procedures must I use for the performance tests?**

(a) You must conduct all performance tests according to §63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in §63.7(c).

(b) You must conduct each stack test according to the requirements in Table 4 to this subpart. Boilers that use a CEMS for carbon monoxide (CO) are exempt from the initial CO performance testing in Table 4 to this subpart and the oxygen concentration operating limit requirement specified in Table 3 to this subpart.

(c) You must conduct performance stack tests at the representative operating load conditions while burning the type of fuel or mixture of fuels that have the highest emissions potential for each regulated pollutant, and you must demonstrate initial compliance and establish your operating limits based on these performance stack tests. For subcategories with more than one emission limit, these requirements could result in the need to conduct more than one performance stack test. Following each performance stack test and until the next performance stack test, you must comply with the operating limit for operating load conditions specified in Table 3 to this subpart.

(d) You must conduct a minimum of three separate test runs for each performance stack test required in this section, as specified in §63.7(e)(3) and in accordance with the provisions in Table 4 to this subpart.

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A-7 to part 60 of this chapter to convert the measured PM concentrations and the measured mercury concentrations that result from the performance test to pounds per million Btu heat input emission rates.

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#### **§63.11213 What fuel analyses and procedures must I use for the performance tests?**

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) and (c) of this section and Table 5 to this subpart, as applicable. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury in Table 1 of this subpart.

(b) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in Table 5 to this subpart. Each composite sample must consist of a minimum of three samples collected at approximately equal intervals during a test run period.

(c) Determine the concentration of mercury in the fuel in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 5 to this subpart.

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#### **§63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?**

(a) If you own or operate an existing or new coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must conduct a performance tune-up according to §63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.

(b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to §63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to this subpart and is an accurate depiction of your facility.

(d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

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### **CONTINUOUS COMPLIANCE REQUIREMENTS**

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#### **§63.11220 When must I conduct subsequent performance tests or fuel analyses?**

(a) If your boiler has a heat input capacity of 10 million British thermal units per hour or greater, you must conduct all applicable performance (stack) tests according to §63.11212 on a triennial basis, except as specified in paragraphs (b) through (d) of this section. Triennial performance tests must be completed no more than 37 months after the previous performance test.

(b) When demonstrating initial compliance with the PM emission limit, if your boiler's performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you do not need to conduct further performance tests for PM but must continue to comply with all applicable operating limits and monitoring requirements. If your initial performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests as specified in paragraph (a) of this section.

(c) If you demonstrate compliance with the mercury emission limit based on fuel analysis, you must conduct a fuel analysis according to §63.11213 for each type of fuel burned as specified in paragraphs (c)(1) and (2) of this section. If you plan to burn a new type of fuel or fuel mixture, you must conduct a fuel analysis before burning the new type of fuel or mixture in your boiler. You must recalculate the mercury emission rate using Equation 1 of §63.11211. The recalculated mercury emission rate must be less than the applicable emission limit.

(1) When demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, you do not need to conduct further fuel analysis sampling but must continue to comply with all applicable operating limits and monitoring requirements.

(2) When demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are greater than half of the mercury emission limit, you must conduct quarterly sampling.



(d) For existing affected boilers that have not operated since the previous compliance demonstration and more than 3 years have passed since the previous compliance demonstration, you must complete your subsequent compliance demonstration no later than 180 days after the re-start of the affected boiler.

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#### **§63.11221 Is there a minimum amount of monitoring data I must obtain?**

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.11205(c).

(b) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating and compliance is required, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7) of this part), repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data collected during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or quality control activities in calculations used to report emissions or operating levels. Any such periods must be reported according to the requirements in §63.11225. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan), failure to collect required data is a deviation of the monitoring requirements.

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#### **§63.11222 How do I demonstrate continuous compliance with the emission limits?**

(a) You must demonstrate continuous compliance with each emission limit and operating limit in Tables 1 and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart and to paragraphs (a)(1) through (4) of this section.

(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.11196, whichever date comes first, you must continuously monitor the operating parameters. 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. Operating limits are confirmed or reestablished during performance tests.

(2) If you have an applicable mercury or PM emission limit, you must keep records of the type and amount of all fuels burned in each boiler during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in lower emissions of mercury than the applicable emission limit (if you demonstrate compliance through fuel analysis), or result in lower fuel input of mercury than the maximum values calculated during the last performance stack test (if you demonstrate compliance through performance stack testing).

(3) If you have an applicable mercury emission limit and you plan to burn a new type of fuel, you must determine the mercury concentration for any new fuel type in units of pounds per million Btu, using the procedures in Equation 1 of §63.11211 based on supplier data or your own fuel analysis, and meet the requirements in paragraphs (a)(3)(i) or (ii) of this section.

(i) The recalculated mercury emission rate must be less than the applicable emission limit.

(ii) If the mercury concentration is higher than mercury fuel input during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.11212 to demonstrate that the mercury emissions do not exceed the emission limit.

(4) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, 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 the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 and 3 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in §63.11225.

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#### **§63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?**

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.



(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.

(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.

(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.

(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(d) Seasonal boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed seasonal boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Seasonal boilers are not subject to the emission limits in Table 1 to this subpart or the operating limits in Table 3 to this subpart.

(e) Oil-fired boilers with a heat input capacity of equal to or less than 5 million Btu per hour must conduct a tune-up as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed oil-fired boiler with a heat input capacity of equal to or less than 5 million Btu per hour, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(f) Limited-use boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed limited-use boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Limited-use boilers are not subject to the emission limits in Table 1 to this subpart, the energy assessment requirements in Table 2 to this subpart, or the operating limits in Table 3 to this subpart.

(g) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7509, Feb. 1, 2013]

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#### **§63.11224 What are my monitoring, installation, operation, and maintenance requirements?**

(a) If your boiler is subject to a CO emission limit in Table 1 to this subpart, you must either install, operate, and maintain a CEMS for CO and oxygen according to the procedures in paragraphs (a)(1) through (6) of this section, or install, calibrate, operate, and maintain an oxygen analyzer system, as defined in §63.11237, according to the manufacturer's recommendations and paragraphs (a)(7) and (d) of this section, as applicable, by the compliance date specified in §63.11196. Where a certified CO CEMS is used, the CO level shall be monitored at the outlet of the boiler, after any add-on controls or flue gas recirculation system and before release to the atmosphere. Boilers that use a CO CEMS are

Boiler #1 has an  
O2 trim system.  
Boiler #2 does not.

exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in §63.11211(a) of this subpart. Oxygen monitors and oxygen trim systems must be installed to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location.

(1) Each CO CEMS must be installed, operated, and maintained according to the applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, and each oxygen CEMS must be installed, operated, and maintained according to Performance Specification 3 at 40 CFR part 60, appendix B. Both the CO and oxygen CEMS must also be installed, operated, and maintained according to the site-specific monitoring plan developed according to paragraph (c) of this section.

(2) You must conduct a performance evaluation of each CEMS according to the requirements in §63.8(e) and according to Performance Specifications 3 and 4, 4A, or 4B at 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) every 15 minutes. You must have CEMS data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2).

(5) You must calculate hourly averages, corrected to 3 percent oxygen, from each hour of CO CEMS data in parts per million CO concentrations and determine the 10-day rolling average of all recorded readings, except as provided in §63.11221(c). Calculate a 10-day rolling average from all of the hourly averages collected for the 10-day operating period using Equation 2 of this section.

$$\text{10-day average} = \frac{\sum_{i=1}^n H_{pvi}}{n} \quad \text{(Eq. 2)}$$

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Where:

$H_{pvi}$  = the hourly parameter value for hour  $i$

$n$  = the number of valid hourly parameter values collected over 10 boiler operating days

(6) For purposes of collecting CO data, you must operate the CO CEMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when CO data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

(7) You must operate the oxygen analyzer system at or above the minimum oxygen level that is established as the operating limit according to Table 6 to this subpart when firing the fuel or fuel mixture utilized during the most recent CO performance stack test. Operation of oxygen trim systems to meet these requirements shall not be done in a manner which compromises furnace safety.

(b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under §63.8(f).

(c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan (if requested) at least 60 days before your initial performance evaluation of your CMS.

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

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

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (c)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (3), and (4)(ii).

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d).

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each CPMS according to the procedures in paragraphs (d)(1) through (4) of this section.

(1) The CPMS must complete a minimum of one cycle of operation every 15 minutes. You must have data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

(2) You must calculate hourly arithmetic averages from each hour of CPMS data in units of the operating limit and determine the 30-day rolling average of all recorded readings, except as provided in §63.11221(c). Calculate a 30-day rolling average from all of the hourly averages collected for the 30-day operating period using Equation 3 of this section.

$$\text{30-day average} = \frac{\sum_{i=1}^n Hpvi}{n} \quad \text{[Eq. 3]}$$

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Where:

Hpvi = the hourly parameter value for hour i

n = the number of valid hourly parameter values collected over 30 boiler operating days

(3) For purposes of collecting data, you must operate the CPMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when CPMS data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

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

(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (e)(1) through (8) of this section by the compliance date specified in §63.11196.

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the requirements in §63.8 and according to Performance Specification 1 of 40 CFR part 60, appendix B.

(3) As specified in §63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in §63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in §63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of §63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must calculate and record 6-minute averages from the opacity monitoring data and determine and record the daily block average of recorded readings, except as provided in §63.11221(c).

(8) For purposes of collecting opacity data, you must operate the COMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when COMS data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

(f) If you use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (f)(1) through (8) of this section.

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

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with EPA-454/R-98-015 (incorporated by reference, see §63.14).

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

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

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

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

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

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

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7510, Feb. 1, 2013]

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### **§63.11225 What are my notification, reporting, and recordkeeping requirements?**

(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.

(1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section.

(2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.

(3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.

(4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification (s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official.

(i) You must submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in §63.13.

(ii) "This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler."

(iii) "This facility has had an energy assessment performed according to §63.11214(c)."

(iv) For units that install bag leak detection systems: "This facility complies with the requirements in §63.11224(f)."

(v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13.

(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler."

(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(iii) "This facility complies with the requirement in §§63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.

(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2 and each of the legitimacy criteria in §241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating

241.3(b)(1) applies to glycerin

241.3(b)(4) applies to animal fats

units that combust non-hazardous secondary materials as fuel per §241.4, you must keep records documenting that the material is a listed non-waste under §241.4(a).

(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must also keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used.

(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.

(vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(6) You must keep the records of all inspection and monitoring data required by §§63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable).

(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(e)(1) Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart to EPA's WebFIRE database by using CEDRI that is accessed through EPA's CDX ([www.epa.gov/cdx](http://www.epa.gov/cdx)). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including CBI, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator at the appropriate address listed in §63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation test as defined in §63.2, you must submit relative accuracy test audit (RATA) data to EPA's CDX by using CEDRI in accordance with paragraph (e)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator at the appropriate address listed in §63.13.

(f) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.



(4) The date upon which you will commence combusting solid waste.

(g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within subpart JJJJJJ, in the boiler becoming subject to subpart JJJJJJ, or in the boiler switching out of subpart JJJJJJ due to a change to 100 percent natural gas, or you have taken a permit limit that resulted in you being subject to subpart JJJJJJ, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.

(2) The date upon which the fuel switch, physical change, or permit limit occurred.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7511, Feb. 1, 2013]

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#### **§63.11226 Affirmative defense for violation of emission standards during malfunction.**

In response to an action to enforce the standards set forth in §63.11201 you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed 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) *Assertion of affirmative defense.* To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control 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) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred; and

(3) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation 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 violation 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 violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source 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 violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

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#### **OTHER REQUIREMENTS AND INFORMATION**

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#### **§63.11235 What parts of the General Provisions apply to me?**

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

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#### **§63.11236 Who implements and enforces this subpart?**

(a) This subpart can be implemented and enforced by EPA or an administrator such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency has the authority to implement and enforce this

subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (c) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emission standard and work practice standards in §63.11223(a).

(2) Approval of alternative opacity emission standard under §63.6(h)(9).

(3) Approval of major change to test methods under §63.7(e)(2)(ii) and (f). A "major change to test method" is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f). A "major change to monitoring" is defined in §63.90.

(5) Approval of major change to recordkeeping and reporting under §63.10(f). A "major change to recordkeeping/reporting" is defined in §63.90.

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### §63.11237 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2 (the General Provisions), and in this section as follows:

*10-day rolling average* means the arithmetic mean of all valid hours of data from 10 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

*30-day rolling average* means the arithmetic mean of all valid hours of data from 30 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

*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.

*Annual heat input* means the heat input for the 12 months preceding the compliance demonstration.

*Bag leak detection system* means a group of instruments that are 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 electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

*Biodiesel* means a mono-alkyl ester derived from biomass and conforming to ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels (incorporated by reference, see §63.14).

*Biomass* means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and wood products (*e.g.*, trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (*e.g.*, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. *This definition of biomass is not intended to suggest that these materials are or are not solid waste.*

*Biomass subcategory* includes any boiler that burns any biomass and is not in the coal subcategory.

*Boiler* means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam and/or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. A device combusting solid waste, as defined in §241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers, process heaters, and autoclaves are excluded from the definition of *Boiler*.

*Boiler system* means the boiler and associated components, such as, feedwater systems, combustion air systems, fuel systems (including burners), blowdown systems, combustion control systems, steam systems, and condensate return systems, directly connected to and serving the energy use systems.

*Calendar year* means the period between January 1 and December 31, inclusive, for a given year.

*Coal* means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388 (incorporated by reference, see §63.14), coal refuse, and petroleum coke. For the purposes of this subpart, this definition of "coal" includes synthetic fuels derived from coal including, but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures. Coal derived gases are excluded from this definition.

*Coal subcategory* includes any boiler that burns any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis.

*Commercial boiler* means a boiler used in commercial establishments such as hotels, restaurants, and laundries to provide electricity, steam, and/or hot water.

*Common stack* means the exhaust of emissions from two or more affected units through a single flue. Affected units with a common stack may each have separate air pollution control systems located before the common stack, or may have a single air pollution control system located after the exhausts come together in a single flue.

*Daily block average* means the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown and periods when the unit is not operating.

*Deviation* (1) Means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (i) Fails to meet any applicable requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or
  - (ii) 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.
- (2) A deviation is not always a violation.

*Distillate oil* means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §63.14) or diesel fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D975 (incorporated by reference, see §63.14), kerosene, and biodiesel as defined by the American Society of Testing and Materials in ASTM D6751-11b (incorporated by reference, see §63.14).

*Dry scrubber* means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems used as control devices in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

*Electric boiler* means a boiler in which electric heating serves as the source of heat. Electric boilers that burn gaseous or liquid fuel during periods of electrical power curtailment or failure are included in this definition.

*Electric utility steam generating unit (EGU)* means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit. To be "capable of combusting" fossil fuels, an EGU would need to have these fuels allowed in their operating permits and have the appropriate fuel handling facilities on-site or otherwise available (e.g., coal handling equipment, including coal storage area, belts and conveyers, pulverizers, etc.; oil storage facilities). In addition, fossil fuel-fired EGU means any EGU that fired fossil fuel for more than 10.0 percent of the average annual heat input in any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year after April 16, 2015.

*Electrostatic precipitator (ESP)* means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.

*Energy assessment* means the following for the emission units covered by this subpart:

- (1) The energy assessment for facilities with affected boilers with less than 0.3 trillion Btu per year (TBtu/year) heat input capacity will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour energy assessment.
- (2) The energy assessment for facilities with affected boilers with 0.3 to 1.0 TBtu/year heat input capacity will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 33 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour energy assessment.
- (3) The energy assessment for facilities with affected boilers with greater than 1.0 TBtu/year heat input capacity will be up to 24 on-site technical labor hours in length for the first TBtu/year plus 8 on-site technical labor hours for every additional 1.0 TBtu/year not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 20 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.
- (4) The on-site energy use system(s) serving as the basis for the percent of affected boiler(s) energy production, as applicable, in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (e.g., product X manufacturing area; product Y drying area; Building Z).

*Energy management program* means a program that includes a set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility. Facilities may establish their program through energy management systems compatible with ISO 50001.

*Energy use system* (1) Includes the following systems located on the site of the affected boiler that use energy provided by the boiler:

- (i) Process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air conditioning systems; hot water systems; building envelop; and lighting; or
  - (ii) Other systems that use steam, hot water, process heat, or electricity, provided by the affected boiler.
- (2) Energy use systems are only those systems using energy clearly produced by affected boilers.

*Equivalent* means the following only as this term is used in Table 5 to this subpart:

- (1) An equivalent sample collection procedure means a published voluntary consensus standard or practice (VCS) or EPA method that includes collection of a minimum of three composite fuel samples, with each composite consisting of a minimum of three increments collected at approximately equal intervals over the test period.
- (2) An equivalent sample compositing procedure means a published VCS or EPA method to systematically mix and obtain a representative subsample (part) of the composite sample.



(3) An equivalent sample preparation procedure means a published VCS or EPA method that: Clearly states that the standard, practice or method is appropriate for the pollutant and the fuel matrix; or is cited as an appropriate sample preparation standard, practice or method for the pollutant in the chosen VCS or EPA determinative or analytical method.

(4) An equivalent procedure for determining heat content means a published VCS or EPA method to obtain gross calorific (or higher heating) value.

(5) An equivalent procedure for determining fuel moisture content means a published VCS or EPA method to obtain moisture content. If the sample analysis plan calls for determining mercury using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing this metal. On the other hand, if metals analysis is done on an "as received" basis, a separate aliquot can be dried to determine moisture content and the mercury concentration mathematically adjusted to a dry basis.

(6) An equivalent mercury determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for mercury and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 5 to this subpart for the same purpose.

*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. A fabric filter is a dry control system.

*Federally enforceable* means all limitations and conditions that are enforceable by the EPA Administrator, including, but not limited to, the requirements of 40 CFR parts 60, 61, 63, and 65, requirements within any applicable state implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

*Fluidized bed boiler* means a boiler utilizing a fluidized bed combustion process that is not a pulverized coal boiler.

*Fluidized bed combustion* means a process where a fuel is burned in a bed of granulated particles, which are maintained in a mobile suspension by the forward flow of air and combustion products.

*Fuel type* means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, distillate oil, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.

*Gaseous fuels* includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, hydrogen, and biogas.

*Gas-fired boiler* includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

*Heat input* means heat derived from combustion of fuel in preheated combustion air, al combustion engines, kilns, recirculated flue gases, returned condensate, or exhaust gas.

Recent fuel usage meets this definition.

*Hot water heater* means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass fuel and hot water is withdrawn for use external to the vessel. Hot water boilers (i.e., not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 million Btu per hour heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on-demand hot water.

*Hourly average* means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

*Industrial boiler* means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

*Institutional boiler* means a boiler used in institutional establishments such as, but not limited to, medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, and governmental buildings to provide electricity, steam, and/or hot water.

*Limited-use boiler* means any boiler that burns any amount of solid or liquid fuels and has a federally enforceable average annual capacity factor of no more than 10 percent.

*Liquid fuel* includes, but is not limited to, distillate oil, residual oil, any form of liquid fuel derived from petroleum, used oil meeting the specification in 40 CFR 279.11, liquid biofuels, biodiesel, and vegetable oil, and comparable fuels as defined under 40 CFR 261.38.

*Load fraction* means the actual heat input of a boiler divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (e.g., for 50 percent load the load fraction is 0.5).

*Minimum activated carbon injection rate* means load fraction multiplied by the lowest hourly average activated carbon injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

*Minimum oxygen level* means the lowest hourly average oxygen level measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable carbon monoxide emission limit.

*Minimum scrubber liquid flow rate* means the lowest hourly average scrubber liquid flow rate (e.g., to the particulate matter scrubber) measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

*Minimum scrubber pressure drop* means the lowest hourly average scrubber pressure drop measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

*Minimum sorbent injection rate* means:

(1) The load fraction multiplied by the lowest hourly average sorbent injection rate for each sorbent measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits; or

(2) For fluidized bed combustion, the lowest average ratio of sorbent to sulfur measured during the most recent performance test.

*Minimum total secondary electric power* means the lowest hourly average total secondary electric power determined from the values of secondary voltage and secondary current to the electrostatic precipitator measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

**Natural gas means:**

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §63.14); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions (*i.e.*, a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals). Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or

(4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C<sub>3</sub>H<sub>8</sub>.

*Oil subcategory* includes any boiler that burns any liquid fuel and is not in either the biomass or coal subcategories. Gas-fired boilers that burn liquid fuel only during periods of gas curtailment, gas supply interruptions, startups, or for periodic testing are not included in this definition. Periodic testing on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

*Opacity* means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

*Operating day* means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

*Oxygen analyzer system* means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location. This definition includes oxygen trim systems.

*Oxygen trim system* means a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller.

*Particulate matter (PM)* means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.

*Performance testing* means the collection of data resulting from the execution of a test method used (either by stack testing or fuel analysis) to demonstrate compliance with a relevant emission standard.

*Period of gas curtailment or supply interruption* means a period of time during which the supply of gaseous fuel to an affected boiler is restricted or halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility.

*Process heater* means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. Process heaters include units that heat water/water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

**Qualified energy assessor means:**

(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:

- (i) Boiler combustion management.
- (ii) Boiler thermal energy recovery, including
  - (A) Conventional feed water economizer,
  - (B) Conventional combustion air preheater, and
  - (C) Condensing economizer.
- (iii) Boiler blowdown thermal energy recovery.
- (iv) Primary energy resource selection, including
  - (A) Fuel (primary energy source) switching, and
  - (B) Applied steam energy versus direct-fired energy versus electricity.
- (v) Insulation issues.

- (vi) Steam trap and steam leak management.
- (vii) Condensate recovery.
- (viii) Steam end-use management.
- (2) Capabilities and knowledge includes, but is not limited to:
  - (i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.
  - (ii) Familiarity with operating and maintenance practices for steam or process heating systems.
  - (iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.
  - (iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.
  - (v) Boiler-steam turbine cogeneration systems.
  - (vi) Industry specific steam end-use systems.

*Regulated gas stream* means an offgas stream that is routed to a boiler for the purpose of achieving compliance with a standard under another subpart of this part or part 60, part 61, or part 65 of this chapter.

*Residential boiler* means a boiler used to provide heat and/or hot water and/or as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility (e.g., university campus, military base, church grounds) or commercial/industrial facility (e.g., farm) used primarily to provide heat and/or hot water for:

- (1) A dwelling containing four or fewer families, or
- (2) A single unit residence dwelling that has since been converted or subdivided into condominiums or apartments.

*Residual oil* means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society of Testing and Materials in ASTM D396-10 (incorporated by reference, see §63.14(b)).

*Responsible official* means responsible official as defined in §70.2.

*Seasonal boiler* means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory.

*Shutdown* means the cessation of operation of a boiler for any purpose. Shutdown begins either when none of the steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose, or at the point of no fuel being fired in the boiler, whichever is earlier. Shutdown ends when there is no steam and no heat being supplied and no fuel being fired in the boiler.

*Solid fossil fuel* includes, but is not limited to, coal, coke, petroleum coke, and tire-derived fuel.

**Solid fuel means any solid fossil fuel or biomass or bio-based solid fuel.**

*Startup* means either the first-ever firing of fuel in a boiler for the purpose of supplying steam or heat for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose.

*Temporary boiler* means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

- (1) The equipment is attached to a foundation.
- (2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.
- (3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
- (4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

*Tune-up* means adjustments made to a boiler in accordance with the procedures outlined in §63.11223(b).

**Vegetable oil means oils extracted from vegetation.**

*Voluntary Consensus Standards (VCS)* mean technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. EPA/Office of Air Quality Planning and Standards, by precedent, has only used VCS that are written in English. Examples of VCS bodies are: American Society of Testing and Materials (ASTM 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428-B2959, (800) 262-1373, <http://www.astm.org>), American Society of Mechanical Engineers (ASME ASME, Three Park Avenue, New York, NY 10016-5990, (800) 843-2763, <http://www.asme.org>), International Standards Organization (ISO 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, +41 22 749 01 11, <http://www.iso.org/iso/home.htm>), Standards Australia (AS Level 10, The Exchange Centre, 20 Bridge Street, Sydney, GPO Box 476, Sydney NSW 2001, + 61 2 9237 6171 <http://www.stadards.org.au>), British Standards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, +44 (0)20 8996 9001, <http://www.bsigroup.com>), Canadian Standards Association (CSA 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800-463-6727, <http://www.csa.ca>), European Committee for Standardization (CEN CENELEC Management Centre

Avenue Marnix 17 B-1000 Brussels, Belgium +32 2 550 08 11, <http://www.cen.eu/cen>), and German Engineering Standards (VDI VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, +49 211 6214-230, <http://www.vdi.eu>). The types of standards that are not considered VCS are standards developed by: the United States, e.g., California (CARB) and Texas (TCEQ); industry groups, such as American Petroleum Institute (API), Gas Processors Association (GPA), and Gas Research Institute (GRI); and other branches of the U.S. government, e.g., Department of Defense (DOD) and Department of Transportation (DOT). This does not preclude EPA from using standards developed by groups that are not VCS bodies within their rule. When this occurs, EPA has done searches and reviews for VCS equivalent to these non-EPA methods.

**Waste heat boiler** means a device that recovers normally unused energy (i.e., hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial (e.g., thermal oxidizer, kiln, furnace) or power (e.g., combustion turbine, engine) equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

**Wet scrubber** means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler to control emissions of particulate matter or to absorb and neutralize acid gases, such as hydrogen chloride. A wet scrubber creates an aqueous stream or slurry as a byproduct of the emissions control process.

**Work practice standard** means any design, equipment, work practice, or operational standard, or combination thereof, which is promulgated pursuant to section 112(h) of the Clean Air Act.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7513, Feb. 1, 2013]

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**Table 1 to Subpart JJJJJ of Part 63—Emission Limits**

As stated in §63.11201, you must comply with the following applicable emission limits:

| If your boiler is in this subcategory . . .                                                                                                                                 | For the following pollutants . . .        | You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown . . .                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. New coal-fired boilers with heat input capacity of 30 million British thermal units per hour (MMBtu/hr) or greater that do not meet the definition of limited-use boiler | a. PM (Filterable)<br>b. Mercury<br>c. CO | 3.0E-02 pounds(lb) per million British thermal units (MMBtu) of heat input.<br>2.2E-05 lb per MMBtu of heat input.<br>420 parts per million (ppm) by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average). |
| 2. New coal-fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of limited-use boiler                                      | a. PM (Filterable)<br>b. Mercury<br>c. CO | 4.2E-01 lb per MMBtu of heat input.<br>2.2E-05 lb per MMBtu of heat input.<br>420 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).                                                             |
| 3. New biomass-fired boilers with heat input capacity of 30 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler                    | PM (Filterable)                           | 3.0E-02 lb per MMBtu of heat input.                                                                                                                                                                                                                 |
| 4. New biomass fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler                | PM (Filterable)                           | 7.0E-02 lb per MMBtu of heat input.                                                                                                                                                                                                                 |
| 5. New oil-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler                        | PM (Filterable)                           | 3.0E-02 lb per MMBtu of heat input.                                                                                                                                                                                                                 |
| 6. Existing coal-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of limited-use boiler                                     | a. Mercury<br>b. CO                       | 2.2E-05 lb per MMBtu of heat input.<br>420 ppm by volume on a dry basis corrected to 3 percent oxygen.                                                                                                                                              |

[78 FR 7517, Feb. 1, 2013]

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**Table 2 to Subpart JJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices**

As stated in §63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

| If your boiler is in this subcategory . . .                                                                                                                                                                      | You must meet the following . . .                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Existing or new coal-fired, new biomass-fired, or new oil-fired boilers (units with heat input capacity of 10 MMBtu/hr or greater)                                                                            | Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. |
| 2. Existing coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                              |
| 3. New coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use                                                                                       | Conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                        |

|                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. Existing oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                   |  <b>Boiler #2 (EU006)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 5. New oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio      | Conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 6. Existing biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio                                              | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. New biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio                                                   | Conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 8. Existing seasonal boilers                                                                                                                                                                                                      | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 9. New seasonal boilers                                                                                                                                                                                                           | Conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 10. Existing limited-use boilers                                                                                                                                                                                                  | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 11. New limited-use boilers                                                                                                                                                                                                       | Conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 12. Existing oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr                                                                                                                                       | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 13. New oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr                                                                                                                                            | Conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 14. Existing coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up                                         | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                   |  <b>Boiler #1 (EU001)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 15. New coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up                                              | Conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 16. Existing coal-fired, biomass-fired, or oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater), not including limited-use boilers                                                                       | Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items (1) to (4) appropriate for the on-site technical hours listed in §63.11237: |
|                                                                                                                                                                                                                                   | (1) A visual inspection of the boiler system,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                   | (2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                   | (3) An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                   | (4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                   | (5) A list of major energy conservation measures that are within the facility's control,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                   | (6) A list of the energy savings potential of the energy conservation measures identified, and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                   | (7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

[78 FR 7518, Feb. 1, 2013]

[Back to Top](#)**Table 3 to Subpart JJJJJ of Part 63—Operating Limits for Boilers With Emission Limits**

As stated in §63.11201, you must comply with the applicable operating limits:

|                                           |                                                                                                 |
|-------------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>If you demonstrate compliance with</b> | <b>You must meet these operating limits except during periods of startup and shutdown . . .</b> |
|-------------------------------------------|-------------------------------------------------------------------------------------------------|



| applicable emission limits using . . .               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Fabric filter control                             | a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR<br>b. Install and operate a bag leak detection system according to §63.11224 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period.                                                                                                                                                   |
| 2. Electrostatic precipitator control                | a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR<br>b. Maintain the 30-day rolling average total secondary electric power of the electrostatic precipitator at or above the minimum total secondary electric power as defined in §63.11237.                                                                                                                                                                                                      |
| 3. Wet scrubber control                              | Maintain the 30-day rolling average pressure drop across the wet scrubber at or above the minimum scrubber pressure drop as defined in §63.11237 and the 30-day rolling average liquid flow rate at or above the minimum scrubber liquid flow rate as defined in §63.11237.                                                                                                                                                                                                               |
| 4. Dry sorbent or activated carbon injection control | Maintain the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent injection rate or minimum activated carbon injection rate as defined in §63.11237. When your boiler operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (e.g., actual heat input divided by the heat input during the performance stack test; for 50 percent load, multiply the injection rate operating limit by 0.5). |
| 5. Any other add-on air pollution control type.      | This option is for boilers that operate dry control systems. Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average).                                                                                                                                                                                                                                                                                                                             |
| 6. Fuel analysis                                     | Maintain the fuel type or fuel mixture (annual average) such that the mercury emission rate calculated according to §63.11211(c) are less than the applicable emission limit for mercury.                                                                                                                                                                                                                                                                                                 |
| 7. Performance stack testing                         | For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test.                                                                                                                                                                                                                                            |
| 8. Oxygen analyzer system                            | For boilers subject to a CO emission limit that demonstrate compliance with an oxygen analyzer system as specified in §63.11224(a), maintain the 30-day rolling average oxygen level at or above the minimum oxygen level as defined in §63.11237. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.11224(a)(7).                                                                      |

[78 FR 7519, Feb. 1, 2013]

[Back to Top](#)**Table 4 to Subpart JJJJJ of Part 63—Performance (Stack) Testing Requirements**

As stated in §63.11212, you must comply with the following requirements for performance (stack) test for affected sources:

| To conduct a performance test for the following pollutant. . . | You must. . .                                                          | Using. . .                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Particulate Matter                                          | a. Select sampling ports location and the number of traverse points    | Method 1 in appendix A-1 to part 60 of this chapter.                                                                                                                                                                                                                                         |
|                                                                | b. Determine velocity and volumetric flow-rate of the stack gas        | Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.                                                                                                                                                                                                                              |
|                                                                | c. Determine oxygen and carbon dioxide concentrations of the stack gas | Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), <sup>a</sup> or ANSI/ASME PTC 19.10-1981. <sup>a</sup>                                                                                                                                       |
|                                                                | d. Measure the moisture content of the stack gas                       | Method 4 in appendix A-3 to part 60 of this chapter.                                                                                                                                                                                                                                         |
|                                                                | e. Measure the particulate matter emission concentration               | Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A-3 and A-6 to part 60 of this chapter and a minimum 1 dscm of sample volume per run.                                                                                                                       |
|                                                                | f. Convert emissions concentration to lb/MMBtu emission rates          | Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.                                                                                                                                                                                                                   |
| 2. Mercury                                                     | a. Select sampling ports location and the number of traverse points    | Method 1 in appendix A-1 to part 60 of this chapter.                                                                                                                                                                                                                                         |
|                                                                | b. Determine velocity and volumetric flow-rate of the stack gas        | Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.                                                                                                                                                                                                                              |
|                                                                | c. Determine oxygen and carbon dioxide concentrations of the stack gas | Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), <sup>a</sup> or ANSI/ASME PTC 19.10-1981. <sup>a</sup>                                                                                                                                       |
|                                                                | d. Measure the moisture content of the stack gas                       | Method 4 in appendix A-3 to part 60 of this chapter.                                                                                                                                                                                                                                         |
|                                                                | e. Measure the mercury emission concentration                          | Method 29, 30A, or 30B in appendix A-8 to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784-02. <sup>a</sup> Collect a minimum 2 dscm of sample volume with Method 29 of 101A per run. Use a minimum run time of 2 hours with Method 30A. |
|                                                                |                                                                        | Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.                                                                                                                                                                                                                   |

|                    |                                                                         |                                                                                                                                                               |
|--------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | f. Convert emissions concentration to lb/MMBtu emission rates           |                                                                                                                                                               |
| 3. Carbon Monoxide | a. Select the sampling ports location and the number of traverse points | Method 1 in appendix A-1 to part 60 of this chapter.                                                                                                          |
|                    | b. Determine oxygen and carbon dioxide concentrations of the stack gas  | Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), <sup>a</sup> or ANSI/ASME PTC 19.10-1981. <sup>a</sup>        |
|                    | c. Measure the moisture content of the stack gas                        | Method 4 in appendix A-3 to part 60 of this chapter.                                                                                                          |
|                    | d. Measure the carbon monoxide emission concentration                   | Method 10, 10A, or 10B in appendix A-4 to part 60 of this chapter or ASTM D6522-00 (Reapproved 2005) <sup>a</sup> and a minimum 1 hour sampling time per run. |

<sup>a</sup>Incorporated by reference, see §63.14.

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**Table 5 to Subpart JJJJJ of Part 63—Fuel Analysis Requirements**

As stated in §63.11213, you must comply with the following requirements for fuel analysis testing for affected sources:

| To conduct a fuel analysis for the following pollutant . . . | You must . . .                                                   | Using . . .                                                                                                                                                                                                  |
|--------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Mercury                                                   | a. Collect fuel samples                                          | Procedure in §63.11213(b) or ASTM D2234/D2234M <sup>a</sup> (for coal) or ASTM D6323 <sup>a</sup> (for biomass) or equivalent.                                                                               |
|                                                              | b. Compose fuel samples                                          | Procedure in §63.11213(b) or equivalent.                                                                                                                                                                     |
|                                                              | c. Prepare composited fuel samples                               | EPA SW-846-3050B <sup>a</sup> (for solid samples) or EPA SW-846-3020A <sup>a</sup> (for liquid samples) or ASTM D2013/D2013M <sup>a</sup> (for coal) or ASTM D5198 <sup>a</sup> (for biomass) or equivalent. |
|                                                              | d. Determine heat content of the fuel type                       | ASTM D5865 <sup>a</sup> (for coal) or ASTM E711 <sup>a</sup> (for biomass) or equivalent.                                                                                                                    |
|                                                              | e. Determine moisture content of the fuel type                   | ASTM D3173 <sup>a</sup> or ASTM E871 <sup>a</sup> or equivalent.                                                                                                                                             |
|                                                              | f. Measure mercury concentration in fuel sample                  | ASTM D6722 <sup>a</sup> (for coal) or EPA SW-846-7471B <sup>a</sup> (for solid samples) or EPA SW-846-7470A <sup>a</sup> (for liquid samples) or equivalent.                                                 |
|                                                              | g. Convert concentrations into units of lb/MMBtu of heat content |                                                                                                                                                                                                              |

<sup>a</sup>Incorporated by reference, see §63.14.

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**Table 6 to Subpart JJJJJ of Part 63—Establishing Operating Limits**

As stated in §63.11211, you must comply with the following requirements for establishing operating limits:

| If you have an applicable emission limit for . . . | And your operating limits are based on . . .       | You must . . .                                                                                                                           | Using . . .                                                                                             | According to the following requirements                                                                                                                                                                              |
|----------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. PM or mercury                                   | a. Wet scrubber operating parameters               | Establish site-specific minimum scrubber pressure drop and minimum scrubber liquid flow rate operating limits according to §63.11211 (b) | Data from the pressure drop and liquid flow rate monitors and the PM or mercury performance stack tests | (a) You must collect pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance stack tests;                                                                               |
|                                                    |                                                    |                                                                                                                                          |                                                                                                         | (b) Determine the average pressure drop and liquid flow rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run. |
|                                                    | b. Electrostatic precipitator operating parameters | Establish a site-specific minimum total secondary electric power operating limit according to §63.11211(b)                               | Data from the secondary electric power monitors and the PM or mercury performance stack tests           | (a) You must collect secondary electric power data every 15 minutes during the entire period of the performance stack tests;                                                                                         |
|                                                    |                                                    |                                                                                                                                          |                                                                                                         | (b) Determine the average total secondary electric power for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.     |
| 2. Mercury                                         | Dry sorbent or activated carbon                    | Establish a site-specific minimum sorbent or                                                                                             | Data from the sorbent or activated carbon                                                               |                                                                                                                                                                                                                      |

|                                                                                   |                                     |                                                                                      |                                                                                         |                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                   | injection rate operating parameters | activated carbon injection rate operating limit according to §63.11211 (b)           | injection rate monitors and the mercury performance stack tests                         | (a) You must collect sorbent or activated carbon injection rate data every 15 minutes during the entire period of the performance stack tests;                                                                                                                                                                             |
|                                                                                   |                                     |                                                                                      |                                                                                         | (b) Determine the average sorbent or activated carbon injection rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.                                                                                               |
|                                                                                   |                                     |                                                                                      |                                                                                         | (c) When your unit operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance stack test, for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate. |
| 3. CO                                                                             | Oxygen                              | Establish a unit-specific limit for minimum oxygen level                             | Data from the oxygen analyzer system specified in §63.11224 (a)                         | (a) You must collect oxygen data every 15 minutes during the entire period of the performance stack tests;                                                                                                                                                                                                                 |
|                                                                                   |                                     |                                                                                      |                                                                                         | (b) Determine the average hourly oxygen concentration for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.                                                                                                              |
| 4. Any pollutant for which compliance is demonstrated by a performance stack test | Boiler operating load               | Establish a unit-specific limit for maximum operating load according to §63.11212(c) | Data from the operating load monitors (fuel feed monitors or steam generation monitors) | (a) You must collect operating load data (fuel feed rate or steam generation data) every 15 minutes during the entire period of the performance test.                                                                                                                                                                      |
|                                                                                   |                                     |                                                                                      |                                                                                         | (b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.                                                                                                                                                                          |
|                                                                                   |                                     |                                                                                      |                                                                                         | (c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.                                                                                                                                                                      |

[78 FR 7520, Feb. 1, 2013]

[Back to Top](#)**Table 7 to Subpart JJJJJ of Part 63—Demonstrating Continuous Compliance**

As stated in §63.11222, you must show continuous compliance with the emission limitations for affected sources according to the following:

| If you must meet the following operating limits . . .        | You must demonstrate continuous compliance by . . .                                                                                                                                                                                                      |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Opacity                                                   | a. Collecting the opacity monitoring system data according to §63.11224(e) and §63.11221; and                                                                                                                                                            |
|                                                              | b. Reducing the opacity monitoring data to 6-minute averages; and                                                                                                                                                                                        |
|                                                              | c. Maintaining opacity to less than or equal to 10 percent (daily block average).                                                                                                                                                                        |
| 2. Fabric Filter Bag Leak Detection Operation                | Installing and operating a bag leak detection system according to §63.11224(f) and operating the fabric filter such that the requirements in §63.11222(a)(4) are met.                                                                                    |
| 3. Wet Scrubber Pressure Drop and Liquid Flow Rate           | a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§63.11224 and 63.11221; and                                                                                                                                    |
|                                                              | b. Reducing the data to 30-day rolling averages; and                                                                                                                                                                                                     |
|                                                              | c. Maintaining the 30-day rolling average pressure drop and liquid flow rate at or above the minimum pressure drop and minimum liquid flow rate according to §63.11211.                                                                                  |
| 4. Dry Scrubber Sorbent or Activated Carbon Injection Rate   | a. Collecting the sorbent or activated carbon injection rate monitoring system data for the dry scrubber according to §§63.11224 and 63.11221; and                                                                                                       |
|                                                              | b. Reducing the data to 30-day rolling averages; and                                                                                                                                                                                                     |
|                                                              | c. Maintaining the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent or activated carbon injection rate according to §63.11211.                                                                          |
| 5. Electrostatic Precipitator Total Secondary Electric Power | a. Collecting the total secondary electric power monitoring system data for the electrostatic precipitator according to §§63.11224 and 63.11221; and                                                                                                     |
|                                                              | b. Reducing the data to 30-day rolling averages; and                                                                                                                                                                                                     |
|                                                              | c. Maintaining the 30-day rolling average total secondary electric power at or above the minimum total secondary electric power according to §63.11211.                                                                                                  |
| 6. Fuel Pollutant Content                                    | a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to §63.11213 as applicable; and                                                                                             |
|                                                              | b. Keeping monthly records of fuel use according to §§63.11222(a)(2) and 63.11225(b)(4).                                                                                                                                                                 |
| 7. Oxygen content                                            | a. Continuously monitoring the oxygen content of flue gas according to §63.11224 (This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.11224(a)(7)); and |



|                          |                                                                                                                                                                          |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | b. Reducing the data to 30-day rolling averages; and                                                                                                                     |
|                          | c. Maintaining the 30-day rolling average oxygen content at or above the minimum oxygen level established during the most recent CO performance test.                    |
| 8. CO emissions          | a. Continuously monitoring the CO concentration in the combustion exhaust according to §§63.11224 and 63.11221; and                                                      |
|                          | b. Correcting the data to 3 percent oxygen, and reducing the data to 1-hour averages; and                                                                                |
|                          | c. Reducing the data from the hourly averages to 10-day rolling averages; and                                                                                            |
|                          | d. Maintaining the 10-day rolling average CO concentration at or below the applicable emission limit in Table 1 to this subpart.                                         |
| 9. Boiler operating load | a. Collecting operating load data (fuel feed rate or steam generation data) every 15 minutes; and                                                                        |
|                          | b. Reducing the data to 30-day rolling averages; and                                                                                                                     |
|                          | c. Maintaining the 30-day rolling average at or below the operating limit established during the performance test according to §63.11212(c) and Table 6 to this subpart. |

[78 FR 7521, Feb. 1, 2013]

[↑ Back to Top](#)**Table 8 to Subpart JJJJJJ of Part 63—Applicability of General Provisions to Subpart JJJJJJ**

As stated in §63.11235, you must comply with the applicable General Provisions according to the following:

| General provisions cite                                                                   | Subject                                                           | Does it apply?                                                                                                |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| §63.1                                                                                     | Applicability                                                     | Yes.                                                                                                          |
| §63.2                                                                                     | Definitions                                                       | Yes. Additional terms defined in §63.11237.                                                                   |
| §63.3                                                                                     | Units and Abbreviations                                           | Yes.                                                                                                          |
| §63.4                                                                                     | Prohibited Activities and Circumvention                           | Yes.                                                                                                          |
| §63.5                                                                                     | Preconstruction Review and Notification Requirements              | No                                                                                                            |
| §63.6(a), (b)(1)-(b)(5), (b)(7), (c), (f)(2)-(3), (g), (i), (j)                           | Compliance with Standards and Maintenance Requirements            | Yes.                                                                                                          |
| §63.6(e)(1)(i)                                                                            | General Duty to minimize emissions                                | No. See §63.11205 for general duty requirement.                                                               |
| §63.6(e)(1)(ii)                                                                           | Requirement to correct malfunctions ASAP                          | No.                                                                                                           |
| §63.6(e)(3)                                                                               | SSM Plan                                                          | No.                                                                                                           |
| §63.6(f)(1)                                                                               | SSM exemption                                                     | No.                                                                                                           |
| §63.6(h)(1)                                                                               | SSM exemption                                                     | No.                                                                                                           |
| §63.6(h)(2) to (9)                                                                        | Determining compliance with opacity emission standards            | Yes.                                                                                                          |
| §63.7(a), (b), (c), (d), (e)(2)-(e)(9), (f), (g), and (h)                                 | Performance Testing Requirements                                  | Yes.                                                                                                          |
| §63.7(e)(1)                                                                               | Performance testing                                               | No. See §63.11210.                                                                                            |
| §63.8(a), (b), (c)(1), (c)(1)(ii), (c)(2) to (c)(9), (d)(1) and (d)(2), (e), (f), and (g) | Monitoring Requirements                                           | Yes.                                                                                                          |
| §63.8(c)(1)(i)                                                                            | General duty to minimize emissions and CMS operation              | No.                                                                                                           |
| §63.8(c)(1)(iii)                                                                          | Requirement to develop SSM Plan for CMS                           | No.                                                                                                           |
| §63.8(d)(3)                                                                               | Written procedures for CMS                                        | Yes, except for the last sentence, which refers to an SSM plan. SSM plans are not required.                   |
| §63.9                                                                                     | Notification Requirements                                         | Yes, excluding the information required in §63.9(h)(2)(i)(B), (D), (E) and (F). See §63.11225.                |
| §63.10(a) and (b)(1)                                                                      | Recordkeeping and Reporting Requirements                          | Yes.                                                                                                          |
| §63.10(b)(2)(i)                                                                           | Recordkeeping of occurrence and duration of startups or shutdowns | No.                                                                                                           |
| §63.10(b)(2)(ii)                                                                          | Recordkeeping of malfunctions                                     | No. See §63.11225 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunctions. |
| §63.10(b)(2)(iii)                                                                         | Maintenance records                                               | Yes.                                                                                                          |
| §63.10(b)(2)(iv) and (v)                                                                  | Actions taken to minimize emissions during SSM                    | No.                                                                                                           |
| §63.10(b)(2)(vi)                                                                          | Recordkeeping for CMS malfunctions                                | Yes.                                                                                                          |
| §63.10(b)(2)(vii) to (xiv)                                                                | Other CMS requirements                                            | Yes.                                                                                                          |
| §63.10(b)(3)                                                                              | Recordkeeping requirements for applicability determinations       | No.                                                                                                           |
| §63.10(c)(1) to (9)                                                                       | Recordkeeping for sources with CMS                                | Yes.                                                                                                          |
| §63.10(c)(10)                                                                             | Recording nature and cause of malfunctions                        | No. See §63.11225 for malfunction recordkeeping requirements.                                                 |
| §63.10(c)(11)                                                                             | Recording corrective actions                                      | No. See §63.11225 for malfunction recordkeeping requirements.                                                 |

|                                                                                                                                                                                         |                                                                                                  |                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| §63.10(c)(12) and (13)                                                                                                                                                                  | Recordkeeping for sources with CMS                                                               | Yes.                                                      |
| §63.10(c)(15)                                                                                                                                                                           | Allows use of SSM plan                                                                           | No.                                                       |
| §63.10(d)(1) and (2)                                                                                                                                                                    | General reporting requirements                                                                   | Yes.                                                      |
| §63.10(d)(3)                                                                                                                                                                            | Reporting opacity or visible emission observation results                                        | No.                                                       |
| §63.10(d)(4)                                                                                                                                                                            | Progress reports under an extension of compliance                                                | Yes.                                                      |
| §63.10(d)(5)                                                                                                                                                                            | SSM reports                                                                                      | No. See §63.11225 for malfunction reporting requirements. |
| §63.10(e)                                                                                                                                                                               | Additional reporting requirements for sources with CMS                                           | Yes.                                                      |
| §63.10(f)                                                                                                                                                                               | Waiver of recordkeeping or reporting requirements                                                | Yes.                                                      |
| §63.11                                                                                                                                                                                  | Control Device Requirements                                                                      | No.                                                       |
| §63.12                                                                                                                                                                                  | State Authority and Delegation                                                                   | Yes.                                                      |
| §63.13-63.16                                                                                                                                                                            | Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions | Yes.                                                      |
| §63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(iii), (h)(3), (h)(5)(iv), 63.8 (a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9) | Reserved                                                                                         | No.                                                       |

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7521, Feb. 1, 2013]

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**Highlights for  
New Unit****ELECTRONIC CODE OF FEDERAL REGULATIONS****e-CFR data is current as of May 26, 2015**

Title 40 → Chapter I → Subchapter C → Part 63 → Subpart JJJJJJ

Title 40: Protection of Environment

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

**Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources****Contents**

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SOURCE: 76 FR 15591, Mar. 21, 2011, unless otherwise noted.

[⬆ Back to Top](#)**WHAT THIS SUBPART COVERS**[⬆ Back to Top](#)**§63.11193 Am I subject to this subpart?**

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in §63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in §63.2, except as specified in §63.11195.

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#### **§63.11194 What is the affected source of this subpart?**

- (a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section.
- (1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers within a subcategory, as listed in §63.11200 and defined in §63.11237, located at an area source.
- (2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in §63.11200 and as defined in §63.11237, located at an area source.
- (b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010.
- (c) An affected source is a new source if you commenced construction of the affected source after June 4, 2010, and the boiler meets the applicability criteria at the time you commence construction.
- (d) An affected source is a reconstructed source if the boiler meets the reconstruction criteria as defined in §63.2, you commenced reconstruction after June 4, 2010, and the boiler meets the applicability criteria at the time you commence reconstruction.
- (e) An existing dual-fuel fired boiler meeting the definition of gas-fired boiler, as defined in §63.11237, that meets the applicability requirements of this subpart after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel.
- (f) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or part 71 as a result of this subpart. You may, however, be required to obtain a title V permit due to another reason or reasons. See 40 CFR 70.3(a) and (b) or 71.3(a) and (b). Notwithstanding the exemption from title V permitting for area sources under this subpart, you must continue to comply with the provisions of this subpart.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

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#### **§63.11195 Are any boilers not subject to this subpart?**

- The types of boilers listed in paragraphs (a) through (k) of this section are not subject to this subpart and to any requirements in this subpart.
- (a) Any boiler specifically listed as, or included in the definition of, an affected source in another standard(s) under this part.
  - (b) Any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act.
  - (c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers), unless such units do not combust hazardous waste and combust comparable fuels.
  - (d) A boiler that is used specifically for research and development. This exemption does not include boilers that solely or primarily provide steam (or heat) to a process or for heating at a research and development facility. This exemption does not prohibit the use of the steam (or heat) generated from the boiler during research and development, however, the boiler must be concurrently and primarily engaged in research and development for the exemption to apply.
  - (e) A gas-fired boiler as defined in this subpart.**
  - (f) A hot water heater as defined in this subpart.
  - (g) Any boiler that is used as a control device to comply with another subpart of this part, or part 60, part 61, or part 65 of this chapter provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler is provided by regulated gas streams that are subject to another standard.
  - (h) Temporary boilers as defined in this subpart.
  - (i) Residential boilers as defined in this subpart.
  - (j) Electric boilers as defined in this subpart.
  - (k) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

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#### **§63.11196 What are my compliance dates?**

- (a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.
- (1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.
- (2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.
- (3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.

(b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011.

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in §63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

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## EMISSION LIMITS, WORK PRACTICE STANDARDS, EMISSION REDUCTION MEASURES, AND MANAGEMENT PRACTICES

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### §63.11200 What are the subcategories of boilers?

The subcategories of boilers, as defined in §63.11237 are:

(a) Coal.

(b) Biomass.

(c) Oil.

(d) Seasonal boilers.

(e) Oil-fired boilers with heat input capacity of equal to or less than 5 million British thermal units (Btu) per hour.

(f) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.

(g) Limited-use boilers.

[78 FR 7506, Feb. 1, 2013]

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### §63.11201 What standards must I meet?

(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.

(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.

(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in §63.11237, during which time you must comply only with Table 2 to this subpart.

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## GENERAL COMPLIANCE REQUIREMENTS

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### §63.11205 What are my general requirements for complying with this subpart?

(a) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(b) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to §63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of §63.11224.

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

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

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i).

(2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

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## INITIAL COMPLIANCE REQUIREMENTS

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### §63.11210 What are my initial compliance requirements and by what date must I conduct them?

(a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to §63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to §63.11213 and Table 5 to this subpart.

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (j) of this section.

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (j) of this section.

(d) For new or reconstructed affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(e) For new or reconstructed oil-fired boilers that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce particulate matter (PM) or sulfur dioxide emissions, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within 60 days of burning the new fuel.

(f) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in §63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

(g) For affected boilers that ceased burning solid waste consistent with §63.11196(d) and for which your initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.

(h) For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within subpart JJJJJ or the boiler becoming subject to subpart JJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes must be submitted according to §63.11225(g).

(i) For boilers located at existing major sources of HAP that limit their potential to emit (e.g., make a physical change or take a permit limit) such that the existing major source becomes an area source, you must comply with the applicable provisions as specified in paragraphs (i)(1) through (3) of this section.

(1) Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source.

(2) Any new or reconstructed boiler at the existing source must demonstrate compliance with subpart JJJJJ within 180 days of the later of March 21, 2011 or startup.

(3) Notification of such changes must be submitted according to §63.11225(g).

(j) For existing affected boilers that have not operated between the effective date of the rule and the compliance date that is specified for your source in §63.11196, you must comply with the applicable provisions as specified in paragraphs (j)(1) through (3) of this section.

(1) You must complete the initial compliance demonstration, if subject to the emission limits in Table 1 to this subpart, as specified in paragraphs (a) and (b) of this section, no later than 180 days after the re-start of the affected boiler and according to the applicable provisions in §63.7(a)(2).

(2) You must complete the initial performance tune-up, if subject to the tune-up requirements in §63.11223, by following the procedures described in §63.11223(b) no later than 30 days after the re-start of the affected boiler.

(3) You must complete the one-time energy assessment, if subject to the energy assessment requirements specified in Table 2 to this subpart, no later than the compliance date specified in §63.11196.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7507, Feb. 1, 2013]

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#### **§63.11211 How do I demonstrate initial compliance with the emission limits?**

(a) For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to §63.11212 and Table 4 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler according to §63.11213 and Table 5 to this subpart, establishing operating limits according to §63.11222, Table 6 to this subpart and paragraph (b) of this section, as applicable, and conducting CMS performance evaluations according to §63.11224. For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.11213 and Table 5 to this subpart.

(b) You must establish parameter operating limits according to paragraphs (b)(1) through (4) of this section.

(1) For a wet scrubber, you must establish the minimum scrubber liquid flow rate and minimum scrubber pressure drop as defined in §63.11237, as your operating limits during the three-run performance stack test. If you use a wet scrubber and you conduct separate performance stack tests for PM and mercury emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. If you conduct multiple performance stack tests, you must set the minimum scrubber liquid flow rate and pressure drop operating limits at the highest minimum values established during the performance stack tests.

(2) For an electrostatic precipitator operated with a wet scrubber, you must establish the minimum total secondary electric power (secondary voltage and secondary current), as defined in §63.11237, as your operating limits during the three-run performance stack test.

(3) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in §63.11237, as your operating limit during the three-run performance stack test.

(4) The operating limit for boilers with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in §63.11224, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(c) If you elect to demonstrate compliance with an applicable mercury emission limit through fuel analysis, you must conduct fuel analyses according to §63.11213 and Table 5 to this subpart and follow the procedures in paragraphs (c)(1) through (3) of this section.

(1) If you burn more than one fuel type, you must determine the fuel type, or mixture, you could burn in your boiler that would result in the maximum emission rates of mercury.

(2) You must determine the 90th percentile confidence level fuel mercury concentration of the composite samples analyzed for each fuel type using Equation 1 of this section.

$$P_{90} = \text{mean} + (SD * t) \quad (\text{Eq. 1})$$

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Where:

$P_{90}$  = 90th percentile confidence level mercury concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel mercury concentration in the fuel samples analyzed according to §63.11213, in units of pounds per million Btu.

SD = Standard deviation of the mercury concentration in the fuel samples analyzed according to §63.11213, in units of pounds per million Btu.

$t$  =  $t$  distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable mercury emission limit, the emission rate that you calculate for your boiler using Equation 1 of this section must be less than the applicable mercury emission limit.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7508, Feb. 1, 2013]

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#### **§63.11212 What stack tests and procedures must I use for the performance tests?**

(a) You must conduct all performance tests according to §63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in §63.7(c).

(b) You must conduct each stack test according to the requirements in Table 4 to this subpart. Boilers that use a CEMS for carbon monoxide (CO) are exempt from the initial CO performance testing in Table 4 to this subpart and the oxygen concentration operating limit requirement specified in Table 3 to this subpart.



(c) You must conduct performance stack tests at the representative operating load conditions while burning the type of fuel or mixture of fuels that have the highest emissions potential for each regulated pollutant, and you must demonstrate initial compliance and establish your operating limits based on these performance stack tests. For subcategories with more than one emission limit, these requirements could result in the need to conduct more than one performance stack test. Following each performance stack test and until the next performance stack test, you must comply with the operating limit for operating load conditions specified in Table 3 to this subpart.

(d) You must conduct a minimum of three separate test runs for each performance stack test required in this section, as specified in §63.7(e)(3) and in accordance with the provisions in Table 4 to this subpart.

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A-7 to part 60 of this chapter to convert the measured PM concentrations and the measured mercury concentrations that result from the performance test to pounds per million Btu heat input emission rates.

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#### **§63.11213 What fuel analyses and procedures must I use for the performance tests?**

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) and (c) of this section and Table 5 to this subpart, as applicable. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury in Table 1 of this subpart.

(b) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in Table 5 to this subpart. Each composite sample must consist of a minimum of three samples collected at approximately equal intervals during a test run period.

(c) Determine the concentration of mercury in the fuel in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 5 to this subpart.

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#### **§63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?**

(a) If you own or operate an existing or new coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must conduct a performance tune-up according to §63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.

(b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to §63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to this subpart and is an accurate depiction of your facility.

(d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

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### **CONTINUOUS COMPLIANCE REQUIREMENTS**

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#### **§63.11220 When must I conduct subsequent performance tests or fuel analyses?**

(a) If your boiler has a heat input capacity of 10 million British thermal units per hour or greater, you must conduct all applicable performance (stack) tests according to §63.11212 on a triennial basis, except as specified in paragraphs (b) through (d) of this section. Triennial performance tests must be completed no more than 37 months after the previous performance test.

(b) When demonstrating initial compliance with the PM emission limit, if your boiler's performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you do not need to conduct further performance tests for PM but must continue to comply with all applicable operating limits and monitoring requirements. If your initial performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests as specified in paragraph (a) of this section.

(c) If you demonstrate compliance with the mercury emission limit based on fuel analysis, you must conduct a fuel analysis according to §63.11213 for each type of fuel burned as specified in paragraphs (c)(1) and (2) of this section. If you plan to burn a new type of fuel or fuel mixture, you must conduct a fuel analysis before burning the new type of fuel or mixture in your boiler. You must recalculate the mercury emission rate using Equation 1 of §63.11211. The recalculated mercury emission rate must be less than the applicable emission limit.

(1) When demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, you do not need to conduct further fuel analysis sampling but must continue to comply with all applicable operating limits and monitoring requirements.

(2) When demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are greater than half of the mercury emission limit, you must conduct quarterly sampling.



(d) For existing affected boilers that have not operated since the previous compliance demonstration and more than 3 years have passed since the previous compliance demonstration, you must complete your subsequent compliance demonstration no later than 180 days after the re-start of the affected boiler.

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#### **§63.11221 Is there a minimum amount of monitoring data I must obtain?**

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.11205(c).

(b) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating and compliance is required, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7) of this part), repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data collected during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or quality control activities in calculations used to report emissions or operating levels. Any such periods must be reported according to the requirements in §63.11225. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan), failure to collect required data is a deviation of the monitoring requirements.

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#### **§63.11222 How do I demonstrate continuous compliance with the emission limits?**

(a) You must demonstrate continuous compliance with each emission limit and operating limit in Tables 1 and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart and to paragraphs (a)(1) through (4) of this section.

(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.11196, whichever date comes first, you must continuously monitor the operating parameters. 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. Operating limits are confirmed or reestablished during performance tests.

(2) If you have an applicable mercury or PM emission limit, you must keep records of the type and amount of all fuels burned in each boiler during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in lower emissions of mercury than the applicable emission limit (if you demonstrate compliance through fuel analysis), or result in lower fuel input of mercury than the maximum values calculated during the last performance stack test (if you demonstrate compliance through performance stack testing).

(3) If you have an applicable mercury emission limit and you plan to burn a new type of fuel, you must determine the mercury concentration for any new fuel type in units of pounds per million Btu, using the procedures in Equation 1 of §63.11211 based on supplier data or your own fuel analysis, and meet the requirements in paragraphs (a)(3)(i) or (ii) of this section.

(i) The recalculated mercury emission rate must be less than the applicable emission limit.

(ii) If the mercury concentration is higher than mercury fuel input during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.11212 to demonstrate that the mercury emissions do not exceed the emission limit.

(4) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, 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 the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 and 3 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in §63.11225.

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#### **§63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?**

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.

(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.

(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.

(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(d) Seasonal boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed seasonal boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Seasonal boilers are not subject to the emission limits in Table 1 to this subpart or the operating limits in Table 3 to this subpart.

(e) Oil-fired boilers with a heat input capacity of equal to or less than 5 million Btu per hour must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed oil-fired boiler with a heat input capacity of equal to or less than 5 million Btu per hour, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(f) Limited-use boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed limited-use boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Limited-use boilers are not subject to the emission limits in Table 1 to this subpart, the energy assessment requirements in Table 2 to this subpart, or the operating limits in Table 3 to this subpart.

(g) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

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#### **§63.11224 What are my monitoring, installation, operation, and maintenance requirements?**

(a) If your boiler is subject to a CO emission limit in Table 1 to this subpart, you must either install, operate, and maintain a CEMS for CO and oxygen according to the procedures in paragraphs (a)(1) through (6) of this section, or install, calibrate, operate, and maintain an oxygen analyzer system, as defined in §63.11237, according to the manufacturer's recommendations and paragraphs (a)(7) and (d) of this section, as applicable, by the compliance date specified in §63.11196. Where a certified CO CEMS is used, the CO level shall be monitored at the outlet of the boiler, after any add-on controls or flue gas recirculation system and before release to the atmosphere. Boilers that use a CO CEMS are

exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in §63.11211(a) of this subpart. Oxygen monitors and oxygen trim systems must be installed to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location.

(1) Each CO CEMS must be installed, operated, and maintained according to the applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, and each oxygen CEMS must be installed, operated, and maintained according to Performance Specification 3 at 40 CFR part 60, appendix B. Both the CO and oxygen CEMS must also be installed, operated, and maintained according to the site-specific monitoring plan developed according to paragraph (c) of this section.

(2) You must conduct a performance evaluation of each CEMS according to the requirements in §63.8(e) and according to Performance Specifications 3 and 4, 4A, or 4B at 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) every 15 minutes. You must have CEMS data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2).

(5) You must calculate hourly averages, corrected to 3 percent oxygen, from each hour of CO CEMS data in parts per million CO concentrations and determine the 10-day rolling average of all recorded readings, except as provided in §63.11221(c). Calculate a 10-day rolling average from all of the hourly averages collected for the 10-day operating period using Equation 2 of this section.

$$\text{10-day average} = \frac{\sum_{i=1}^n H_{pvi}}{n} \quad \text{(Eq. 2)}$$

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Where:

$H_{pvi}$  = the hourly parameter value for hour  $i$

$n$  = the number of valid hourly parameter values collected over 10 boiler operating days

(6) For purposes of collecting CO data, you must operate the CO CEMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when CO data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

(7) You must operate the oxygen analyzer system at or above the minimum oxygen level that is established as the operating limit according to Table 6 to this subpart when firing the fuel or fuel mixture utilized during the most recent CO performance stack test. Operation of oxygen trim systems to meet these requirements shall not be done in a manner which compromises furnace safety.

(b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under §63.8(f).

(c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan (if requested) at least 60 days before your initial performance evaluation of your CMS.

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

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

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (c)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (3), and (4)(ii).

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d).

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each CPMS according to the procedures in paragraphs (d)(1) through (4) of this section.

(1) The CPMS must complete a minimum of one cycle of operation every 15 minutes. You must have data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

(2) You must calculate hourly arithmetic averages from each hour of CPMS data in units of the operating limit and determine the 30-day rolling average of all recorded readings, except as provided in §63.11221(c). Calculate a 30-day rolling average from all of the hourly averages collected for the 30-day operating period using Equation 3 of this section.

$$\text{30-day average} = \frac{\sum_{i=1}^n Hpvi}{n} \quad \text{[Eq. 3]}$$

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Where:

Hpvi = the hourly parameter value for hour i

n = the number of valid hourly parameter values collected over 30 boiler operating days

(3) For purposes of collecting data, you must operate the CPMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when CPMS data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

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

(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (e)(1) through (8) of this section by the compliance date specified in §63.11196.

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the requirements in §63.8 and according to Performance Specification 1 of 40 CFR part 60, appendix B.

(3) As specified in §63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in §63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in §63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of §63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must calculate and record 6-minute averages from the opacity monitoring data and determine and record the daily block average of recorded readings, except as provided in §63.11221(c).

(8) For purposes of collecting opacity data, you must operate the COMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when COMS data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

(f) If you use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (f)(1) through (8) of this section.

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

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with EPA-454/R-98-015 (incorporated by reference, see §63.14).

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

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

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

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

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

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

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7510, Feb. 1, 2013]

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### **§63.11225 What are my notification, reporting, and recordkeeping requirements?**

(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.

(1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section.

(2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.

(3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.

(4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification (s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official.

(i) You must submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in §63.13.

(ii) "This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler."

(iii) "This facility has had an energy assessment performed according to §63.11214(c)."

(iv) For units that install bag leak detection systems: "This facility complies with the requirements in §63.11224(f)."

(v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13.

(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler."

(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(iii) "This facility complies with the requirement in §§63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.

(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2 and each of the legitimacy criteria in §241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating

241.3(b)(1) applies  
to glycerin

241.3(b)(4) applies  
to animal fats



units that combust non-hazardous secondary materials as fuel per §241.4, you must keep records documenting that the material is a listed non-waste under §241.4(a).

(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must also keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used.

(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.

(vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(6) You must keep the records of all inspection and monitoring data required by §§63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable).

(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(e)(1) Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart to EPA's WebFIRE database by using CEDRI that is accessed through EPA's CDX ([www.epa.gov/cdx](http://www.epa.gov/cdx)). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including CBI, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator at the appropriate address listed in §63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation test as defined in §63.2, you must submit relative accuracy test audit (RATA) data to EPA's CDX by using CEDRI in accordance with paragraph (e)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator at the appropriate address listed in §63.13.

(f) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.

(4) The date upon which you will commence combusting solid waste.

(g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within subpart JJJJJJ, in the boiler becoming subject to subpart JJJJJJ, or in the boiler switching out of subpart JJJJJJ due to a change to 100 percent natural gas, or you have taken a permit limit that resulted in you being subject to subpart JJJJJJ, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.

(2) The date upon which the fuel switch, physical change, or permit limit occurred.

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#### **§63.11226 Affirmative defense for violation of emission standards during malfunction.**

In response to an action to enforce the standards set forth in §63.11201 you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed 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) *Assertion of affirmative defense.* To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control 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) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred; and

(3) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation 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 violation 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 violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source 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 violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

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#### **OTHER REQUIREMENTS AND INFORMATION**

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#### **§63.11235 What parts of the General Provisions apply to me?**

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

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#### **§63.11236 Who implements and enforces this subpart?**

(a) This subpart can be implemented and enforced by EPA or an administrator such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency has the authority to implement and enforce this

subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (c) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emission standard and work practice standards in §63.11223(a).

(2) Approval of alternative opacity emission standard under §63.6(h)(9).

(3) Approval of major change to test methods under §63.7(e)(2)(ii) and (f). A "major change to test method" is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f). A "major change to monitoring" is defined in §63.90.

(5) Approval of major change to recordkeeping and reporting under §63.10(f). A "major change to recordkeeping/reporting" is defined in §63.90.

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### §63.11237 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2 (the General Provisions), and in this section as follows:

*10-day rolling average* means the arithmetic mean of all valid hours of data from 10 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

*30-day rolling average* means the arithmetic mean of all valid hours of data from 30 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

*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.

*Annual heat input* means the heat input for the 12 months preceding the compliance demonstration.

*Bag leak detection system* means a group of instruments that are 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 electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

*Biodiesel* means a mono-alkyl ester derived from biomass and conforming to ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels (incorporated by reference, see §63.14).

*Biomass* means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and wood products (*e.g.*, trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (*e.g.*, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. *This definition of biomass is not intended to suggest that these materials are or are not solid waste.*

*Biomass subcategory* includes any boiler that burns any biomass and is not in the coal subcategory.

*Boiler* means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam and/or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. A device combusting solid waste, as defined in §241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers, process heaters, and autoclaves are excluded from the definition of *Boiler*.

*Boiler system* means the boiler and associated components, such as, feedwater systems, combustion air systems, fuel systems (including burners), blowdown systems, combustion control systems, steam systems, and condensate return systems, directly connected to and serving the energy use systems.

*Calendar year* means the period between January 1 and December 31, inclusive, for a given year.

*Coal* means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388 (incorporated by reference, see §63.14), coal refuse, and petroleum coke. For the purposes of this subpart, this definition of "coal" includes synthetic fuels derived from coal including, but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures. Coal derived gases are excluded from this definition.

*Coal subcategory* includes any boiler that burns any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis.

*Commercial boiler* means a boiler used in commercial establishments such as hotels, restaurants, and laundries to provide electricity, steam, and/or hot water.

*Common stack* means the exhaust of emissions from two or more affected units through a single flue. Affected units with a common stack may each have separate air pollution control systems located before the common stack, or may have a single air pollution control system located after the exhausts come together in a single flue.

*Daily block average* means the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown and periods when the unit is not operating.



*Deviation* (1) Means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (i) Fails to meet any applicable requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or
  - (ii) 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.
- (2) A deviation is not always a violation.

*Distillate oil* means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §63.14) or diesel fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D975 (incorporated by reference, see §63.14), kerosene, and biodiesel as defined by the American Society of Testing and Materials in ASTM D6751-11b (incorporated by reference, see §63.14).

*Dry scrubber* means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems used as control devices in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

*Electric boiler* means a boiler in which electric heating serves as the source of heat. Electric boilers that burn gaseous or liquid fuel during periods of electrical power curtailment or failure are included in this definition.

*Electric utility steam generating unit (EGU)* means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit. To be "capable of combusting" fossil fuels, an EGU would need to have these fuels allowed in their operating permits and have the appropriate fuel handling facilities on-site or otherwise available (e.g., coal handling equipment, including coal storage area, belts and conveyers, pulverizers, etc.; oil storage facilities). In addition, fossil fuel-fired EGU means any EGU that fired fossil fuel for more than 10.0 percent of the average annual heat input in any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year after April 16, 2015.

*Electrostatic precipitator (ESP)* means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.

*Energy assessment* means the following for the emission units covered by this subpart:

- (1) The energy assessment for facilities with affected boilers with less than 0.3 trillion Btu per year (TBtu/year) heat input capacity will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour energy assessment.
- (2) The energy assessment for facilities with affected boilers with 0.3 to 1.0 TBtu/year heat input capacity will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 33 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour energy assessment.
- (3) The energy assessment for facilities with affected boilers with greater than 1.0 TBtu/year heat input capacity will be up to 24 on-site technical labor hours in length for the first TBtu/year plus 8 on-site technical labor hours for every additional 1.0 TBtu/year not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 20 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.
- (4) The on-site energy use system(s) serving as the basis for the percent of affected boiler(s) energy production, as applicable, in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (e.g., product X manufacturing area; product Y drying area; Building Z).

*Energy management program* means a program that includes a set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility. Facilities may establish their program through energy management systems compatible with ISO 50001.

*Energy use system* (1) Includes the following systems located on the site of the affected boiler that use energy provided by the boiler:

- (i) Process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air conditioning systems; hot water systems; building envelop; and lighting; or
- (ii) Other systems that use steam, hot water, process heat, or electricity, provided by the affected boiler.

(2) Energy use systems are only those systems using energy clearly produced by affected boilers.

*Equivalent* means the following only as this term is used in Table 5 to this subpart:

- (1) An equivalent sample collection procedure means a published voluntary consensus standard or practice (VCS) or

EPA method that includes collection of a minimum of three composite fuel samples, with each composite consisting of a minimum of three increments collected at approximately equal intervals over the test period.

- (2) An equivalent sample compositing procedure means a published VCS or EPA method to systematically mix and obtain a representative subsample (part) of the composite sample.

(3) An equivalent sample preparation procedure means a published VCS or EPA method that: Clearly states that the standard, practice or method is appropriate for the pollutant and the fuel matrix; or is cited as an appropriate sample preparation standard, practice or method for the pollutant in the chosen VCS or EPA determinative or analytical method.

(4) An equivalent procedure for determining heat content means a published VCS or EPA method to obtain gross calorific (or higher heating) value.

(5) An equivalent procedure for determining fuel moisture content means a published VCS or EPA method to obtain moisture content. If the sample analysis plan calls for determining mercury using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing this metal. On the other hand, if metals analysis is done on an "as received" basis, a separate aliquot can be dried to determine moisture content and the mercury concentration mathematically adjusted to a dry basis.

(6) An equivalent mercury determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for mercury and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 5 to this subpart for the same purpose.

*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. A fabric filter is a dry control system.

*Federally enforceable* means all limitations and conditions that are enforceable by the EPA Administrator, including, but not limited to, the requirements of 40 CFR parts 60, 61, 63, and 65, requirements within any applicable state implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

*Fluidized bed boiler* means a boiler utilizing a fluidized bed combustion process that is not a pulverized coal boiler.

*Fluidized bed combustion* means a process where a fuel is burned in a bed of granulated particles, which are maintained in a mobile suspension by the forward flow of air and combustion products.

*Fuel type* means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, distillate oil, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.

*Gaseous fuels* includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, hydrogen, and biogas.

*Gas-fired boiler* includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

*Heat input* means heat derived from combustion of fuel in a boiler and does not include the heat input from preheated combustion air, recirculated flue gases, returned condensate, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns.

*Hot water heater* means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass fuel and hot water is withdrawn for use external to the vessel. Hot water boilers (i.e., not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 million Btu per hour heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on-demand hot water.

*Hourly average* means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

*Industrial boiler* means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

*Institutional boiler* means a boiler used in institutional establishments such as, but not limited to, medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, and governmental buildings to provide electricity, steam, and/or hot water.

*Limited-use boiler* means any boiler that burns any amount of solid or liquid fuels and has a federally enforceable average annual capacity factor of no more than 10 percent.

*Liquid fuel* includes, but is not limited to, distillate oil, residual oil, any form of liquid fuel derived from petroleum, used oil meeting the specification in 40 CFR 279.11, liquid biofuels, biodiesel, and vegetable oil, and comparable fuels as defined under 40 CFR 261.38.

*Load fraction* means the actual heat input of a boiler divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (e.g., for 50 percent load the load fraction is 0.5).

*Minimum activated carbon injection rate* means load fraction multiplied by the lowest hourly average activated carbon injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

*Minimum oxygen level* means the lowest hourly average oxygen level measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable carbon monoxide emission limit.

*Minimum scrubber liquid flow rate* means the lowest hourly average scrubber liquid flow rate (e.g., to the particulate matter scrubber) measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

*Minimum scrubber pressure drop* means the lowest hourly average scrubber pressure drop measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

*Minimum sorbent injection rate* means:

(1) The load fraction multiplied by the lowest hourly average sorbent injection rate for each sorbent measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits; or

(2) For fluidized bed combustion, the lowest average ratio of sorbent to sulfur measured during the most recent performance test.

*Minimum total secondary electric power* means the lowest hourly average total secondary electric power determined from the values of secondary voltage and secondary current to the electrostatic precipitator measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

**Natural gas means:**

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §63.14); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions (*i.e.*, a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals). Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or

(4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure  $C_3H_8$ .

*Oil subcategory* includes any boiler that burns any liquid fuel and is not in either the biomass or coal subcategories. Gas-fired boilers that burn liquid fuel only during periods of gas curtailment, gas supply interruptions, startups, or for periodic testing are not included in this definition. Periodic testing on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

*Opacity* means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

*Operating day* means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

*Oxygen analyzer system* means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location. This definition includes oxygen trim systems.

*Oxygen trim system* means a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller.

*Particulate matter (PM)* means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.

*Performance testing* means the collection of data resulting from the execution of a test method used (either by stack testing or fuel analysis) to demonstrate compliance with a relevant emission standard.

*Period of gas curtailment or supply interruption* means a period of time during which the supply of gaseous fuel to an affected boiler is restricted or halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility.

*Process heater* means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. Process heaters include units that heat water/water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

**Qualified energy assessor means:**

(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:

(i) Boiler combustion management.

(ii) Boiler thermal energy recovery, including

(A) Conventional feed water economizer,

(B) Conventional combustion air preheater, and

(C) Condensing economizer.

(iii) Boiler blowdown thermal energy recovery.

(iv) Primary energy resource selection, including

(A) Fuel (primary energy source) switching, and

(B) Applied steam energy versus direct-fired energy versus electricity.

(v) Insulation issues.

- (vi) Steam trap and steam leak management.
- (vii) Condensate recovery.
- (viii) Steam end-use management.
- (2) Capabilities and knowledge includes, but is not limited to:
  - (i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.
  - (ii) Familiarity with operating and maintenance practices for steam or process heating systems.
  - (iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.
  - (iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.
  - (v) Boiler-steam turbine cogeneration systems.
  - (vi) Industry specific steam end-use systems.

*Regulated gas stream* means an offgas stream that is routed to a boiler for the purpose of achieving compliance with a standard under another subpart of this part or part 60, part 61, or part 65 of this chapter.

*Residential boiler* means a boiler used to provide heat and/or hot water and/or as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility (e.g., university campus, military base, church grounds) or commercial/industrial facility (e.g., farm) used primarily to provide heat and/or hot water for:

- (1) A dwelling containing four or fewer families, or
- (2) A single unit residence dwelling that has since been converted or subdivided into condominiums or apartments.

*Residual oil* means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society of Testing and Materials in ASTM D396-10 (incorporated by reference, see §63.14(b)).

*Responsible official* means responsible official as defined in §70.2.

*Seasonal boiler* means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory.

*Shutdown* means the cessation of operation of a boiler for any purpose. Shutdown begins either when none of the steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose, or at the point of no fuel being fired in the boiler, whichever is earlier. Shutdown ends when there is no steam and no heat being supplied and no fuel being fired in the boiler.

*Solid fossil fuel* includes, but is not limited to, coal, coke, petroleum coke, and tire-derived fuel.

***Solid fuel* means any solid fossil fuel or biomass or bio-based solid fuel.**

*Startup* means either the first-ever firing of fuel in a boiler for the purpose of supplying steam or heat for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose.

*Temporary boiler* means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

- (1) The equipment is attached to a foundation.
- (2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.
- (3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
- (4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

*Tune-up* means adjustments made to a boiler in accordance with the procedures outlined in §63.11223(b).

***Vegetable oil* means oils extracted from vegetation.**

*Voluntary Consensus Standards (VCS)* mean technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. EPA/Office of Air Quality Planning and Standards, by precedent, has only used VCS that are written in English. Examples of VCS bodies are: American Society of Testing and Materials (ASTM 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428-B2959, (800) 262-1373, <http://www.astm.org>), American Society of Mechanical Engineers (ASME ASME, Three Park Avenue, New York, NY 10016-5990, (800) 843-2763, <http://www.asme.org>), International Standards Organization (ISO 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, +41 22 749 01 11, <http://www.iso.org/iso/home.htm>), Standards Australia (AS Level 10, The Exchange Centre, 20 Bridge Street, Sydney, GPO Box 476, Sydney NSW 2001, + 61 2 9237 6171 <http://www.stadards.org.au>), British Standards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, +44 (0)20 8996 9001, <http://www.bsigroup.com>), Canadian Standards Association (CSA 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800-463-6727, <http://www.csa.ca>), European Committee for Standardization (CEN CENELEC Management Centre

Avenue Marnix 17 B-1000 Brussels, Belgium +32 2 550 08 11, <http://www.cen.eu/cen>), and German Engineering Standards (VDI VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, +49 211 6214-230, <http://www.vdi.eu>). The types of standards that are not considered VCS are standards developed by: the United States, e.g., California (CARB) and Texas (TCEQ); industry groups, such as American Petroleum Institute (API), Gas Processors Association (GPA), and Gas Research Institute (GRI); and other branches of the U.S. government, e.g., Department of Defense (DOD) and Department of Transportation (DOT). This does not preclude EPA from using standards developed by groups that are not VCS bodies within their rule. When this occurs, EPA has done searches and reviews for VCS equivalent to these non-EPA methods.

**Waste heat boiler** means a device that recovers normally unused energy (i.e., hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial (e.g., thermal oxidizer, kiln, furnace) or power (e.g., combustion turbine, engine) equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

**Wet scrubber** means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler to control emissions of particulate matter or to absorb and neutralize acid gases, such as hydrogen chloride. A wet scrubber creates an aqueous stream or slurry as a byproduct of the emissions control process.

**Work practice standard** means any design, equipment, work practice, or operational standard, or combination thereof, which is promulgated pursuant to section 112(h) of the Clean Air Act.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7513, Feb. 1, 2013]

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**Table 1 to Subpart JJJJJ of Part 63—Emission Limits**

As stated in §63.11201, you must comply with the following applicable emission limits:

| If your boiler is in this subcategory . . .                                                                                                                                 | For the following pollutants . . .        | You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown . . .                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. New coal-fired boilers with heat input capacity of 30 million British thermal units per hour (MMBtu/hr) or greater that do not meet the definition of limited-use boiler | a. PM (Filterable)<br>b. Mercury<br>c. CO | 3.0E-02 pounds(lb) per million British thermal units (MMBtu) of heat input.<br>2.2E-05 lb per MMBtu of heat input.<br>420 parts per million (ppm) by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average). |
| 2. New coal-fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of limited-use boiler                                      | a. PM (Filterable)<br>b. Mercury<br>c. CO | 4.2E-01 lb per MMBtu of heat input.<br>2.2E-05 lb per MMBtu of heat input.<br>420 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).                                                             |
| 3. New biomass-fired boilers with heat input capacity of 30 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler                    | PM (Filterable)                           | 3.0E-02 lb per MMBtu of heat input.                                                                                                                                                                                                                 |
| 4. New biomass fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler                | PM (Filterable)                           | 7.0E-02 lb per MMBtu of heat input.                                                                                                                                                                                                                 |
| 5. New oil-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler                        | PM (Filterable)                           | 3.0E-02 lb per MMBtu of heat input.                                                                                                                                                                                                                 |
| 6. Existing coal-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of limited-use boiler                                     | a. Mercury<br>b. CO                       | 2.2E-05 lb per MMBtu of heat input.<br>420 ppm by volume on a dry basis corrected to 3 percent oxygen.                                                                                                                                              |

[78 FR 7517, Feb. 1, 2013]

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**Table 2 to Subpart JJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices**

As stated in §63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

| If your boiler is in this subcategory . . .                                                                                                                                                                      | You must meet the following . . .                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Existing or new coal-fired, new biomass-fired, or new oil-fired boilers (units with heat input capacity of 10 MMBtu/hr or greater)                                                                            | Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. |
| 2. Existing coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                              |
| 3. New coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use                                                                                       | Conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                        |



|                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. Existing oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. New oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio      | Conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 6. Existing biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio                                              | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. New biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio                                                   | Conduct a tune-up of the boiler biennially as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 8. Existing seasonal boilers                                                                                                                                                                                                      | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 9. New seasonal boilers                                                                                                                                                                                                           | Conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 10. Existing limited-use boilers                                                                                                                                                                                                  | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 11. New limited-use boilers                                                                                                                                                                                                       | Conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 12. Existing oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr                                                                                                                                       | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 13. New oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr                                                                                                                                            | Conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 14. Existing coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up                                         | Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 15. New coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up                                              | Conduct a tune-up of the boiler every 5 years as specified in §63.11223.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 16. Existing coal-fired, biomass-fired, or oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater), not including limited-use boilers                                                                       | Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items (1) to (4) appropriate for the on-site technical hours listed in §63.11237: |
|                                                                                                                                                                                                                                   | (1) A visual inspection of the boiler system,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                   | (2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                   | (3) An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                   | (4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                   | (5) A list of major energy conservation measures that are within the facility's control,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                   | (6) A list of the energy savings potential of the energy conservation measures identified, and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                   | (7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

[78 FR 7518, Feb. 1, 2013]

[Back to Top](#)**Table 3 to Subpart JJJJJ of Part 63—Operating Limits for Boilers With Emission Limits**

As stated in §63.11201, you must comply with the applicable operating limits:

|                                           |                                                                                                 |
|-------------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>If you demonstrate compliance with</b> | <b>You must meet these operating limits except during periods of startup and shutdown . . .</b> |
|-------------------------------------------|-------------------------------------------------------------------------------------------------|

| <b>applicable emission limits using . . .</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Fabric filter control                             | a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR<br>b. Install and operate a bag leak detection system according to §63.11224 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period.                                                                                                                                                   |
| 2. Electrostatic precipitator control                | a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR<br>b. Maintain the 30-day rolling average total secondary electric power of the electrostatic precipitator at or above the minimum total secondary electric power as defined in §63.11237.                                                                                                                                                                                                      |
| 3. Wet scrubber control                              | Maintain the 30-day rolling average pressure drop across the wet scrubber at or above the minimum scrubber pressure drop as defined in §63.11237 and the 30-day rolling average liquid flow rate at or above the minimum scrubber liquid flow rate as defined in §63.11237.                                                                                                                                                                                                               |
| 4. Dry sorbent or activated carbon injection control | Maintain the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent injection rate or minimum activated carbon injection rate as defined in §63.11237. When your boiler operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (e.g., actual heat input divided by the heat input during the performance stack test; for 50 percent load, multiply the injection rate operating limit by 0.5). |
| 5. Any other add-on air pollution control type.      | This option is for boilers that operate dry control systems. Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average).                                                                                                                                                                                                                                                                                                                             |
| 6. Fuel analysis                                     | Maintain the fuel type or fuel mixture (annual average) such that the mercury emission rate calculated according to §63.11211(c) are less than the applicable emission limit for mercury.                                                                                                                                                                                                                                                                                                 |
| 7. Performance stack testing                         | For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test.                                                                                                                                                                                                                                            |
| 8. Oxygen analyzer system                            | For boilers subject to a CO emission limit that demonstrate compliance with an oxygen analyzer system as specified in §63.11224(a), maintain the 30-day rolling average oxygen level at or above the minimum oxygen level as defined in §63.11237. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.11224(a)(7).                                                                      |

[78 FR 7519, Feb. 1, 2013]

[Back to Top](#)**Table 4 to Subpart JJJJJ of Part 63—Performance (Stack) Testing Requirements**

As stated in §63.11212, you must comply with the following requirements for performance (stack) test for affected sources:

| <b>To conduct a performance test for the following pollutant. . .</b> | <b>You must. . .</b>                                                   | <b>Using. . .</b>                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Particulate Matter                                                 | a. Select sampling ports location and the number of traverse points    | Method 1 in appendix A-1 to part 60 of this chapter.                                                                                                                                                                                                                                         |
|                                                                       | b. Determine velocity and volumetric flow-rate of the stack gas        | Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.                                                                                                                                                                                                                              |
|                                                                       | c. Determine oxygen and carbon dioxide concentrations of the stack gas | Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), <sup>a</sup> or ANSI/ASME PTC 19.10-1981. <sup>a</sup>                                                                                                                                       |
|                                                                       | d. Measure the moisture content of the stack gas                       | Method 4 in appendix A-3 to part 60 of this chapter.                                                                                                                                                                                                                                         |
|                                                                       | e. Measure the particulate matter emission concentration               | Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A-3 and A-6 to part 60 of this chapter and a minimum 1 dscm of sample volume per run.                                                                                                                       |
|                                                                       | f. Convert emissions concentration to lb/MMBtu emission rates          | Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.                                                                                                                                                                                                                   |
| 2. Mercury                                                            | a. Select sampling ports location and the number of traverse points    | Method 1 in appendix A-1 to part 60 of this chapter.                                                                                                                                                                                                                                         |
|                                                                       | b. Determine velocity and volumetric flow-rate of the stack gas        | Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.                                                                                                                                                                                                                              |
|                                                                       | c. Determine oxygen and carbon dioxide concentrations of the stack gas | Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), <sup>a</sup> or ANSI/ASME PTC 19.10-1981. <sup>a</sup>                                                                                                                                       |
|                                                                       | d. Measure the moisture content of the stack gas                       | Method 4 in appendix A-3 to part 60 of this chapter.                                                                                                                                                                                                                                         |
|                                                                       | e. Measure the mercury emission concentration                          | Method 29, 30A, or 30B in appendix A-8 to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784-02. <sup>a</sup> Collect a minimum 2 dscm of sample volume with Method 29 of 101A per run. Use a minimum run time of 2 hours with Method 30A. |
|                                                                       |                                                                        | Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.                                                                                                                                                                                                                   |

|                    |                                                                         |                                                                                                                                                               |
|--------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | f. Convert emissions concentration to lb/MMBtu emission rates           |                                                                                                                                                               |
| 3. Carbon Monoxide | a. Select the sampling ports location and the number of traverse points | Method 1 in appendix A-1 to part 60 of this chapter.                                                                                                          |
|                    | b. Determine oxygen and carbon dioxide concentrations of the stack gas  | Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), <sup>a</sup> or ANSI/ASME PTC 19.10-1981. <sup>a</sup>        |
|                    | c. Measure the moisture content of the stack gas                        | Method 4 in appendix A-3 to part 60 of this chapter.                                                                                                          |
|                    | d. Measure the carbon monoxide emission concentration                   | Method 10, 10A, or 10B in appendix A-4 to part 60 of this chapter or ASTM D6522-00 (Reapproved 2005) <sup>a</sup> and a minimum 1 hour sampling time per run. |

<sup>a</sup>Incorporated by reference, see §63.14.

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**Table 5 to Subpart JJJJJ of Part 63—Fuel Analysis Requirements**

As stated in §63.11213, you must comply with the following requirements for fuel analysis testing for affected sources:

| To conduct a fuel analysis for the following pollutant . . . | You must . . .                                                   | Using . . .                                                                                                                                                                                                  |
|--------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Mercury                                                   | a. Collect fuel samples                                          | Procedure in §63.11213(b) or ASTM D2234/D2234M <sup>a</sup> (for coal) or ASTM D6323 <sup>a</sup> (for biomass) or equivalent.                                                                               |
|                                                              | b. Compose fuel samples                                          | Procedure in §63.11213(b) or equivalent.                                                                                                                                                                     |
|                                                              | c. Prepare composited fuel samples                               | EPA SW-846-3050B <sup>a</sup> (for solid samples) or EPA SW-846-3020A <sup>a</sup> (for liquid samples) or ASTM D2013/D2013M <sup>a</sup> (for coal) or ASTM D5198 <sup>a</sup> (for biomass) or equivalent. |
|                                                              | d. Determine heat content of the fuel type                       | ASTM D5865 <sup>a</sup> (for coal) or ASTM E711 <sup>a</sup> (for biomass) or equivalent.                                                                                                                    |
|                                                              | e. Determine moisture content of the fuel type                   | ASTM D3173 <sup>a</sup> or ASTM E871 <sup>a</sup> or equivalent.                                                                                                                                             |
|                                                              | f. Measure mercury concentration in fuel sample                  | ASTM D6722 <sup>a</sup> (for coal) or EPA SW-846-7471B <sup>a</sup> (for solid samples) or EPA SW-846-7470A <sup>a</sup> (for liquid samples) or equivalent.                                                 |
|                                                              | g. Convert concentrations into units of lb/MMBtu of heat content |                                                                                                                                                                                                              |

<sup>a</sup>Incorporated by reference, see §63.14.

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**Table 6 to Subpart JJJJJ of Part 63—Establishing Operating Limits**

As stated in §63.11211, you must comply with the following requirements for establishing operating limits:

| If you have an applicable emission limit for . . . | And your operating limits are based on . . .       | You must . . .                                                                                                                           | Using . . .                                                                                             | According to the following requirements                                                                                                                                                                              |
|----------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. PM or mercury                                   | a. Wet scrubber operating parameters               | Establish site-specific minimum scrubber pressure drop and minimum scrubber liquid flow rate operating limits according to §63.11211 (b) | Data from the pressure drop and liquid flow rate monitors and the PM or mercury performance stack tests | (a) You must collect pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance stack tests;                                                                               |
|                                                    |                                                    |                                                                                                                                          |                                                                                                         | (b) Determine the average pressure drop and liquid flow rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run. |
|                                                    | b. Electrostatic precipitator operating parameters | Establish a site-specific minimum total secondary electric power operating limit according to §63.11211(b)                               | Data from the secondary electric power monitors and the PM or mercury performance stack tests           | (a) You must collect secondary electric power data every 15 minutes during the entire period of the performance stack tests;                                                                                         |
|                                                    |                                                    |                                                                                                                                          |                                                                                                         | (b) Determine the average total secondary electric power for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.     |
| 2. Mercury                                         | Dry sorbent or activated carbon                    | Establish a site-specific minimum sorbent or                                                                                             | Data from the sorbent or activated carbon                                                               |                                                                                                                                                                                                                      |



|                                                                                   |                                     |                                                                                      |                                                                                         |                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                   | injection rate operating parameters | activated carbon injection rate operating limit according to §63.11211 (b)           | injection rate monitors and the mercury performance stack tests                         | (a) You must collect sorbent or activated carbon injection rate data every 15 minutes during the entire period of the performance stack tests;                                                                                                                                                                             |
|                                                                                   |                                     |                                                                                      |                                                                                         | (b) Determine the average sorbent or activated carbon injection rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.                                                                                               |
|                                                                                   |                                     |                                                                                      |                                                                                         | (c) When your unit operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance stack test, for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate. |
| 3. CO                                                                             | Oxygen                              | Establish a unit-specific limit for minimum oxygen level                             | Data from the oxygen analyzer system specified in §63.11224 (a)                         | (a) You must collect oxygen data every 15 minutes during the entire period of the performance stack tests;                                                                                                                                                                                                                 |
|                                                                                   |                                     |                                                                                      |                                                                                         | (b) Determine the average hourly oxygen concentration for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.                                                                                                              |
| 4. Any pollutant for which compliance is demonstrated by a performance stack test | Boiler operating load               | Establish a unit-specific limit for maximum operating load according to §63.11212(c) | Data from the operating load monitors (fuel feed monitors or steam generation monitors) | (a) You must collect operating load data (fuel feed rate or steam generation data) every 15 minutes during the entire period of the performance test.                                                                                                                                                                      |
|                                                                                   |                                     |                                                                                      |                                                                                         | (b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.                                                                                                                                                                          |
|                                                                                   |                                     |                                                                                      |                                                                                         | (c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.                                                                                                                                                                      |

[78 FR 7520, Feb. 1, 2013]

[Back to Top](#)**Table 7 to Subpart JJJJJ of Part 63—Demonstrating Continuous Compliance**

As stated in §63.11222, you must show continuous compliance with the emission limitations for affected sources according to the following:

| If you must meet the following operating limits . . .        | You must demonstrate continuous compliance by . . .                                                                                                                                                                                                      |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Opacity                                                   | a. Collecting the opacity monitoring system data according to §63.11224(e) and §63.11221; and                                                                                                                                                            |
|                                                              | b. Reducing the opacity monitoring data to 6-minute averages; and                                                                                                                                                                                        |
|                                                              | c. Maintaining opacity to less than or equal to 10 percent (daily block average).                                                                                                                                                                        |
| 2. Fabric Filter Bag Leak Detection Operation                | Installing and operating a bag leak detection system according to §63.11224(f) and operating the fabric filter such that the requirements in §63.11222(a)(4) are met.                                                                                    |
| 3. Wet Scrubber Pressure Drop and Liquid Flow Rate           | a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§63.11224 and 63.11221; and                                                                                                                                    |
|                                                              | b. Reducing the data to 30-day rolling averages; and                                                                                                                                                                                                     |
|                                                              | c. Maintaining the 30-day rolling average pressure drop and liquid flow rate at or above the minimum pressure drop and minimum liquid flow rate according to §63.11211.                                                                                  |
| 4. Dry Scrubber Sorbent or Activated Carbon Injection Rate   | a. Collecting the sorbent or activated carbon injection rate monitoring system data for the dry scrubber according to §§63.11224 and 63.11221; and                                                                                                       |
|                                                              | b. Reducing the data to 30-day rolling averages; and                                                                                                                                                                                                     |
|                                                              | c. Maintaining the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent or activated carbon injection rate according to §63.11211.                                                                          |
| 5. Electrostatic Precipitator Total Secondary Electric Power | a. Collecting the total secondary electric power monitoring system data for the electrostatic precipitator according to §§63.11224 and 63.11221; and                                                                                                     |
|                                                              | b. Reducing the data to 30-day rolling averages; and                                                                                                                                                                                                     |
|                                                              | c. Maintaining the 30-day rolling average total secondary electric power at or above the minimum total secondary electric power according to §63.11211.                                                                                                  |
| 6. Fuel Pollutant Content                                    | a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to §63.11213 as applicable; and                                                                                             |
|                                                              | b. Keeping monthly records of fuel use according to §§63.11222(a)(2) and 63.11225(b)(4).                                                                                                                                                                 |
| 7. Oxygen content                                            | a. Continuously monitoring the oxygen content of flue gas according to §63.11224 (This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.11224(a)(7)); and |

|                          |                                                                                                                                                                          |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | b. Reducing the data to 30-day rolling averages; and                                                                                                                     |
|                          | c. Maintaining the 30-day rolling average oxygen content at or above the minimum oxygen level established during the most recent CO performance test.                    |
| 8. CO emissions          | a. Continuously monitoring the CO concentration in the combustion exhaust according to §§63.11224 and 63.11221; and                                                      |
|                          | b. Correcting the data to 3 percent oxygen, and reducing the data to 1-hour averages; and                                                                                |
|                          | c. Reducing the data from the hourly averages to 10-day rolling averages; and                                                                                            |
|                          | d. Maintaining the 10-day rolling average CO concentration at or below the applicable emission limit in Table 1 to this subpart.                                         |
| 9. Boiler operating load | a. Collecting operating load data (fuel feed rate or steam generation data) every 15 minutes; and                                                                        |
|                          | b. Reducing the data to 30-day rolling averages; and                                                                                                                     |
|                          | c. Maintaining the 30-day rolling average at or below the operating limit established during the performance test according to §63.11212(c) and Table 6 to this subpart. |

[78 FR 7521, Feb. 1, 2013]

[↑ Back to Top](#)**Table 8 to Subpart JJJJJJ of Part 63—Applicability of General Provisions to Subpart JJJJJJ**

As stated in §63.11235, you must comply with the applicable General Provisions according to the following:

| General provisions cite                                                                  | Subject                                                           | Does it apply?                                                                                                |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| §63.1                                                                                    | Applicability                                                     | Yes.                                                                                                          |
| §63.2                                                                                    | Definitions                                                       | Yes. Additional terms defined in §63.11237.                                                                   |
| §63.3                                                                                    | Units and Abbreviations                                           | Yes.                                                                                                          |
| §63.4                                                                                    | Prohibited Activities and Circumvention                           | Yes.                                                                                                          |
| §63.5                                                                                    | Preconstruction Review and Notification Requirements              | No                                                                                                            |
| §63.6(a), (b)(1)-(b)(5), (b)(7), (c), (f)(2)-(3), (g), (i), (j)                          | Compliance with Standards and Maintenance Requirements            | Yes.                                                                                                          |
| §63.6(e)(1)(i)                                                                           | General Duty to minimize emissions                                | No. See §63.11205 for general duty requirement.                                                               |
| §63.6(e)(1)(ii)                                                                          | Requirement to correct malfunctions ASAP                          | No.                                                                                                           |
| §63.6(e)(3)                                                                              | SSM Plan                                                          | No.                                                                                                           |
| §63.6(f)(1)                                                                              | SSM exemption                                                     | No.                                                                                                           |
| §63.6(h)(1)                                                                              | SSM exemption                                                     | No.                                                                                                           |
| §63.6(h)(2) to (9)                                                                       | Determining compliance with opacity emission standards            | Yes.                                                                                                          |
| §63.7(a), (b), (c), (d), (e)(2)-(e)(9), (f), (g), and (h)                                | Performance Testing Requirements                                  | Yes.                                                                                                          |
| §63.7(e)(1)                                                                              | Performance testing                                               | No. See §63.11210.                                                                                            |
| §63.8(a), (b), (c)(1), (c)(1)(ii), (c)(2) to (c)(9), (d)(1) and (d)(2), (e),(f), and (g) | Monitoring Requirements                                           | Yes.                                                                                                          |
| §63.8(c)(1)(i)                                                                           | General duty to minimize emissions and CMS operation              | No.                                                                                                           |
| §63.8(c)(1)(iii)                                                                         | Requirement to develop SSM Plan for CMS                           | No.                                                                                                           |
| §63.8(d)(3)                                                                              | Written procedures for CMS                                        | Yes, except for the last sentence, which refers to an SSM plan. SSM plans are not required.                   |
| §63.9                                                                                    | Notification Requirements                                         | Yes, excluding the information required in §63.9(h)(2)(i)(B), (D), (E) and (F). See §63.11225.                |
| §63.10(a) and (b)(1)                                                                     | Recordkeeping and Reporting Requirements                          | Yes.                                                                                                          |
| §63.10(b)(2)(i)                                                                          | Recordkeeping of occurrence and duration of startups or shutdowns | No.                                                                                                           |
| §63.10(b)(2)(ii)                                                                         | Recordkeeping of malfunctions                                     | No. See §63.11225 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunctions. |
| §63.10(b)(2)(iii)                                                                        | Maintenance records                                               | Yes.                                                                                                          |
| §63.10(b)(2)(iv) and (v)                                                                 | Actions taken to minimize emissions during SSM                    | No.                                                                                                           |
| §63.10(b)(2)(vi)                                                                         | Recordkeeping for CMS malfunctions                                | Yes.                                                                                                          |
| §63.10(b)(2)(vii) to (xiv)                                                               | Other CMS requirements                                            | Yes.                                                                                                          |
| §63.10(b)(3)                                                                             | Recordkeeping requirements for applicability determinations       | No.                                                                                                           |
| §63.10(c)(1) to (9)                                                                      | Recordkeeping for sources with CMS                                | Yes.                                                                                                          |
| §63.10(c)(10)                                                                            | Recording nature and cause of malfunctions                        | No. See §63.11225 for malfunction recordkeeping requirements.                                                 |
| §63.10(c)(11)                                                                            | Recording corrective actions                                      | No. See §63.11225 for malfunction recordkeeping requirements.                                                 |

|                                                                                                                                                                                         |                                                                                                  |                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| §63.10(c)(12) and (13)                                                                                                                                                                  | Recordkeeping for sources with CMS                                                               | Yes.                                                      |
| §63.10(c)(15)                                                                                                                                                                           | Allows use of SSM plan                                                                           | No.                                                       |
| §63.10(d)(1) and (2)                                                                                                                                                                    | General reporting requirements                                                                   | Yes.                                                      |
| §63.10(d)(3)                                                                                                                                                                            | Reporting opacity or visible emission observation results                                        | No.                                                       |
| §63.10(d)(4)                                                                                                                                                                            | Progress reports under an extension of compliance                                                | Yes.                                                      |
| §63.10(d)(5)                                                                                                                                                                            | SSM reports                                                                                      | No. See §63.11225 for malfunction reporting requirements. |
| §63.10(e)                                                                                                                                                                               | Additional reporting requirements for sources with CMS                                           | Yes.                                                      |
| §63.10(f)                                                                                                                                                                               | Waiver of recordkeeping or reporting requirements                                                | Yes.                                                      |
| §63.11                                                                                                                                                                                  | Control Device Requirements                                                                      | No.                                                       |
| §63.12                                                                                                                                                                                  | State Authority and Delegation                                                                   | Yes.                                                      |
| §63.13-63.16                                                                                                                                                                            | Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions | Yes.                                                      |
| §63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(iii), (h)(3), (h)(5)(iv), 63.8 (a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9) | Reserved                                                                                         | No.                                                       |

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7521, Feb. 1, 2013]

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## MEMORANDUM

TO: Ben Bertram

FROM: Katie Hill Brandt, PE

DATE: August 19, 2015 - REVISED

RE: Use of Refined Animal Fats and Glycerin as Boiler Fuels  
SEH No. SANIM 131141 14.00

### SUMMARY

The purpose of this memo is to document that refined animal fats and glycerin can be used as alternative fuels at the Sanimax USA LLC (Sanimax) facility located in South St. Paul, Minnesota. The memorandum documents the required generation, processing, handling, and storage requirements to allow these fuels to be used.

### BACKGROUND

Sanimax recycles animal, vegetable, and food processing waste materials. Refined animal fats and vegetable oils are some of the principle products produced at the South St. Paul facility. Other regional Sanimax facilities produce biodiesel as an end product for distribution into the market, with glycerin produced as a byproduct of the biodiesel production process.

Sanimax operates two boilers at the South St. Paul location and has requested to replace one of the existing boilers with a new 98 MMBtu/hr boiler. The existing boilers fire primarily natural gas, with the option to fire a range of back-up fuels, including no. 2 fuel oil, no. 6 fuel oil, propane, biodiesel, glycerin, vegetable oils, and refined animal fats. Sanimax proposes that the new boiler will fire primarily natural gas, with the option to fire the alternate fuels noted above with the exception of no. 6 fuel oil, which will be removed as a fuel option at the facility.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Source Industrial, Commercial, and Institutional Boilers (40 CFR Part 63 Subpart JJJJJJ), which applies to the new and existing boilers at Sanimax, regulates the combustion of various fuels in new and existing boilers. Of the proposed allowable fuels at Sanimax, natural gas, propane, no. 2 fuel oil, vegetable oil, and biodiesel are explicitly mentioned in this rule as allowable fuels.

Other fuels, such as refined animal fats and glycerin, are allowed to be used as boiler fuels if they meet certain criteria in 40 CFR Part 241, *Solid Wastes Used as Fuels or Ingredients in Combustion Units* ("Part 241 Rule"). Sanimax proposes to use refined animal fats produced at Sanimax facilities and at non-Sanimax facilities as a fuel and to use glycerin produced at Sanimax facilities as a fuel. This memorandum documents these fuels meet the Part 241 Rule.

## APPLICABLE DEFINITIONS

The United States Environmental Protection Agency (U.S. EPA) has finalized rules that define what materials can be used as fuels in boilers. In 40 CFR Part 241, *Solid Wastes Used as Fuels or Ingredients in Combustion Units*, the definition of “**contaminants**” is given as the following:

**Contaminants** means any constituent in non-hazardous secondary materials that will result in emissions of the air pollutants identified in Clean Air Act section 112(b) [Hazardous Air Pollutants] or the nine pollutants listed under Clean Air Act section 129(a)(4)) [particulate matter (PM), opacity, sulfur dioxide (SO<sub>2</sub>), hydrogen chloride (HCl), oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), lead, cadmium, mercury, and dioxins and dibenzofurans] when such non-hazardous secondary materials are burned as a fuel or used as an ingredient, including those constituents that could generate products of incomplete combustion.

In 40 CFR Part 241, the definition of “**processing**” is given as the following:

**Processing** means any operations that transform discarded non-hazardous secondary material into a non-waste fuel or non-waste ingredient product. Processing includes, but is not limited to, operations necessary to: Remove or destroy contaminants; significantly improve the fuel characteristics of the material, e.g., sizing or drying the material in combination with other operations; chemically improve the as-fired energy content; or improve the ingredient characteristics. Minimal operations that result only in modifying the size of the material by shredding do not constitute processing for purposes of this definition.

## SECONDARY MATERIALS AS FUELS

Rules found in 40 CFR Part 241.3(b)(1) and (4), *Standard and procedures for identification of non-hazardous secondary material that are solid waste when used as a fuel or ingredients in combustion units*, define which non-hazardous secondary materials are not solid wastes when combusted. Refined animal fats and glycerin must meet certain criteria to meet these definitions.

## REFINED ANIMAL FATS

Refined animal fats must meet the following criteria to be considered a non-waste fuel [from 241.3(b)(4)]:

- A. Must have been processed, which means any operations that transform discarded non-hazardous secondary material into a non-waste fuel, per the definition of “processing” noted above.

*Response: As a rendering plant, Sanimax processes animal by-product materials to produce various products, including refined animal fats. Prior to processing, the animal by-product materials are not suitable fuels. In order to burn animal fats in the facility boilers, the fuels have to meet certain specifications in order to not foul up the burner and boiler system. The processing of the animal by-product materials removes contaminants and foreign matter and ensures that the animal fats are of uniform consistency. The refined product will be fed to the boiler at a constant, steady temperature to ensure that it is in liquid form prior to firing. Consequently, the refined product must meet specifications for melting point and viscosity. Prior to processing, the animal by-product materials would not be considered usable in Sanimax's boilers. Thus, the animal fats at Sanimax meet the definition of “processed” in 40 CFR 241.2.*

- B. Must meet the legitimacy criteria shown below<sup>1</sup>.
  - a. The refined animal fat must be managed as a valuable commodity based on the following criteria:

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<sup>1</sup> Legitimacy criteria from 40 CFR 241.3(d)(1)

- i. Storage prior to use must not exceed reasonable time frames
- ii. Must be managed in a manner consistent with an analogous fuel.

*Response:* Refined animal fats are produced at Sanimax; the company also buys and sells this and other commodities on the open market. If market conditions allow, the fats will be used as a boiler fuel to offset the price of natural gas or no. 2 fuel oil. Due to storage limitations at the facility, storage of refined animal fats will not exceed reasonable time frames. In the instance that refined animal fats are used as boiler fuel, it is anticipated that approximately one week's worth of fuel would be stored on site at a time.

*Because the refined animal fats are a valuable commodity, they (e.g., beef tallow, poultry fat) are stored separately at the facility prior to sale. Refined animal fats will be stored in a double-walled tank equipped with a leak detection system. Similarly, analogous fuels including vegetable oils and no. 2 fuel oil are stored in double-walled tanks prior to introduction into the boiler.*

- b. The refined animal fat must have a meaningful heating value and be used as a fuel in a combustion unit that recovers energy.

*Response:* Analysis of various refined animal fats shows that the fats have meaningful heat values. The heat value for both beef tallow and poultry fat is typically near 17,000 Btu per pound<sup>2</sup>. For comparison, no. 2 fuel oil has a heat value of approximately 139,000 Btu per gallon, or 19,700 Btu per pound<sup>3</sup>.

- c. The refined animal fat must contain contaminants or groups of contaminants (as defined above) at levels comparable in concentration to or lower than those in traditional fuel(s) which the combustion unit is designed to burn.

*Response:* The Sanimax facility located in Green Bay, Wisconsin, conducted emission testing of its boilers while firing tallow and yellow grease (reports are attached). Emissions of criteria pollutants were found to be lower than or comparable to the firing of traditional boiler fuels such as natural gas and no.2 fuel oil. U.S. EPA has summarized emission test results from various sources reporting similar results<sup>4</sup>. Sanimax has also analyzed the sulfur content of various refined animal fat components (see attached analyses). Sulfur content for animal fats ranges between 0.05 and 0.08%, comparable to sulfur levels in low sulfur no. 2 fuel oil (500 parts per million or 0.05%). No lead, cadmium, mercury, and dioxins, or dibenzofurans have been added to the fuel. A summary of emissions from the combustion of refined animal fats and the content of certain precursors to emissions, as they compare to those of traditional fuels, is found in the attached Table 1.

As such, animal fats are not considered a "solid waste" for the purpose of firing in the boilers at Sanimax. U.S. EPA made a similar blanket determination for process fats in its response to comments when the final rule was published, stating that "the final rule establishes these non-hazardous secondary materials, after being processed, as a non-waste fuel<sup>5</sup>."

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<sup>2</sup> "A Demonstration of Fat and Grease as an Industrial Boiler Fuel," University of Georgia Athens Engineering Outreach Service, June 30, 2002. [http://www.biorefinery.uga.edu/docs/biofuel\\_oil\\_report.pdf](http://www.biorefinery.uga.edu/docs/biofuel_oil_report.pdf).

<sup>3</sup> AP 42, Fifth Edition, Volume I, Chapter 1.3 Fuel Oil Combustion Background Document.

<sup>4</sup> "Assessment of Emissions Data and State Permit Information Available for Burning Biofuels Fuels (e.g., Animal Fats and Reclaimed Greases and Oils)", U.S. EPA, March 21, 2003. <http://epa.gov/ttn/caaa/t3/reports/aedsp.pdf>

<sup>5</sup> Federal Register, Vol. 76, No. 54, Monday, March 21, 2011, Rules and Regulations, Page 15516. <http://www.gpo.gov/fdsys/pkg/FR-2011-03-21/pdf/2011-4492.pdf>

## GLYCERIN

Glycerin must meet the following criteria to be considered a non-waste fuel [from 241.3(b)(1)]:

- A. Must remain within the control of the generator.

*Response: Other regional Sanimax facilities produce biodiesel as an end product for distribution into the market, with glycerin produced as a byproduct of the biodiesel production process. Only glycerin produced at Sanimax facilities will be used as a boiler fuel at the Sanimax South St. Paul facility. The glycerin will remain in the control of Sanimax, the generator.*

- B. Must meet the legitimacy criteria shown below<sup>6</sup>.

- a. The glycerin must be managed as a valuable commodity based on the following criteria:
- Storage prior to use must not exceed reasonable time frames
  - Must be managed in a manner consistent with an analogous fuel.

*Response: Glycerin is produced as a byproduct at other Sanimax facilities; the company also buys and sells this and other commodities on the open market. If market conditions allow, the glycerin will be used as a boiler fuel to offset the price of natural gas or no. 2 fuel oil. Due to storage limitations at the facility, storage of glycerin will not exceed reasonable time frames. In the instance that glycerin is used as boiler fuel, it is anticipated that approximately one week's worth of fuel would be stored on site at a time.*

*Because the glycerin is a valuable commodity, it is stored separately at Sanimax facilities prior to sale or combustion. Glycerin will be stored in a double-walled tank equipped with a leak detection system. Similarly, analogous fuels including vegetable oils and no. 2 fuel oil are stored in double-walled tanks prior to introduction into the boiler.*

- b. The glycerin must have a meaningful heating value and be used as a fuel in a combustion unit that recovers energy.

*Response: Analysis of glycerin shows that it has a meaningful heat value. The heat value for glycerin is approximately 6,280 Btu per pound<sup>7</sup>. U.S. EPA has set a general guideline that the heat content of a non-hazardous secondary material should be at least 5,000 Btu per pound to be considered "meaningful<sup>8</sup>." The heat value of glycerin meets this guideline.*

- c. The glycerin must contain contaminants or groups of contaminants (as defined above) at levels comparable in concentration to or lower than those in traditional fuel(s) which the combustion unit is designed to burn.

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<sup>6</sup> Legitimacy criteria from 40 CFR 241.3(d)(1)

<sup>7</sup> "Stack Emissions Evaluation: Combustion of Crude Glycerin and Yellow Grease in an Industrial Fire Tube Boiler," Agricultural Utilization Research Institute, April 13, 2007. <http://www.auri.org/wp-content/assets/legacy/research/Glycerin%20Report%20Final.pdf>

<sup>8</sup> Federal Register, Vol. 76, No. 54, Monday, March 21, 2011, Rules and Regulations, Page 15522  
<http://www.gpo.gov/fdsys/pkg/FR-2011-03-21/pdf/2011-4492.pdf>



*Response: Various studies have been conducted regarding the viability of glycerin as a boiler fuel and the resulting emissions from glycerin combustion<sup>9,10,11</sup>. The composition of glycerin, and thus the emissions from glycerin combustion, vary depending on the source of the biodiesel feedstock and the purity of the glycerin byproduct. Emissions of NO<sub>x</sub>, CO, and SO<sub>2</sub> have been demonstrated to be lower than when burning traditional fuels such as heavy fuel oils. Emissions of PM are not lower than when burning traditional fuels, but the emissions are still comparable in concentration to some traditional fuel oils with higher ash content. Recent studies have shown low levels of acrolein emissions when flame temperature is increased, which ensures the oxidation of the acrolein<sup>12</sup>. No lead, cadmium, mercury, and dioxins, or dibenzofurans have been added to the fuel. A summary of emissions from the combustion of glycerin and the content of certain precursors to emissions, as they compare to those of traditional fuels, is found in the attached Table 1.*

As such, glycerin is not considered a “solid waste” for the purpose of firing in the boilers at Sanimax.

## CONCLUSION

Sanimax proposes to fire a variety of fuels, including refined animal fats and glycerin, in their existing boilers and a proposed new 98 MMBtu/hr boiler at their South St. Paul, Minnesota facility. The refined animal fats will be processed either by Sanimax at one of their facilities or at third party sites, and the glycerin will be produced at other Sanimax facilities and remain in the control of Sanimax until use.

The refined animal fats and glycerin are allowed to be used as fuels because all of the following are true:

1. The refined animal fats will be processed to remove contaminants and improve the fuel characteristics of the materials, turning animal by-products into a non-waste fuel.
2. The glycerin will remain in the control of the generator (i.e., Sanimax).
3. The use of refined animal fats and glycerin as fuels meets the legitimacy criteria for fuels:
  - a. The refined animal fats and glycerin will be managed as valuable commodities prior to use,
  - b. The refined animal fats and glycerin have meaningful heat values, and
  - c. The refined animal fats and glycerin contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s).

Enclosed: Table 1. Emissions and Emission Precursors for Select Boiler Fuels  
Air Emissions Test Reports for Sanimax Green Bay (formerly Anamax Corporation)  
Sanimax “Fat as Fuel Project” Fuel Analysis Results

KHB/TAH

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<sup>9</sup> “Low-Emissions Burner Technology using Biomass-Derived Liquid Fuels,” U.S. Department of Energy, May 2014.

[http://energy.gov/sites/prod/files/2014/05/f15/low-emissions\\_burner\\_technology\\_factsheet.pdf](http://energy.gov/sites/prod/files/2014/05/f15/low-emissions_burner_technology_factsheet.pdf)

<sup>10</sup> “Emissions and Temperature Measurements in Glycerol Flames,” Department of Mechanical Engineering, University of Alabama, April 2012. [http://www.combustioninstitute.org/upload\\_resources/12S-55.pdf](http://www.combustioninstitute.org/upload_resources/12S-55.pdf)

<sup>11</sup> Cavalcante Jr., Francisco S. “Parameters Analysis of the Assisted Combustion of Residual Biodiesel Glycerol,” State University of Ceará, Brazil, September 12, 2012. <http://tuengr.com/V03/455-465.pdf>

<sup>12</sup> Queirós, Pedro. “Atomization and Co-Combustion of Crude Glycerin with Natural Gas and Hydrogen” <https://fenix.tecnico.ulisboa.pt/downloadFile/395143172913/Artigo%20da%20Tese.%20Final.pdf>



**Table 1. Emissions and Emission Precursors for Select Boilers Fuels**

| Fuel                      | Sulfur (%)                              | Ash (%)                                                  | PM (gr/dscf)      | Total PM (lb/MMBtu) | SO <sub>2</sub> (ppm)               | SO <sub>2</sub> (lb/MMBtu) | CO (ppm)                                           | CO (lb/MMBtu)                           | NO <sub>x</sub> (ppm)                                   | NO <sub>x</sub> (lb/MMBtu)               | VOC (ppm)                           | VOC (lb/MMBtu)     | Combustibles (%)  | CO <sub>2</sub> (ppm) | CO <sub>2</sub> (%)                 | CO <sub>2</sub> (lb/MMBtu) | HAPs (lb/MMBtu)     | Acrolein (ppb)                                | Aldehydes (ppm)           |
|---------------------------|-----------------------------------------|----------------------------------------------------------|-------------------|---------------------|-------------------------------------|----------------------------|----------------------------------------------------|-----------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------|--------------------|-------------------|-----------------------|-------------------------------------|----------------------------|---------------------|-----------------------------------------------|---------------------------|
| Beef Tallow / Tallow      | 0.003 <sup>F</sup> , <0.05 <sup>A</sup> | 0.03 <sup>F</sup> , 0.09 <sup>A</sup>                    |                   | 0.019 <sup>F</sup>  | 0 <sup>F</sup>                      | 0.002 <sup>F</sup>         | 9 <sup>E</sup> , 14 <sup>F</sup>                   | 0.012 <sup>F</sup> , .0077 <sup>E</sup> | 83 <sup>E</sup> , 90 <sup>F</sup>                       | 0.1122 <sup>E</sup> , 0.118 <sup>F</sup> |                                     |                    | 0.28 <sup>F</sup> |                       | 7.1 <sup>F</sup>                    |                            |                     |                                               |                           |
| Poultry Fat / Chicken Fat | 0.006 <sup>F</sup> , 0.08 <sup>A</sup>  | 0.06 <sup>A</sup> , 0.14                                 |                   | 0.083 <sup>F</sup>  | 1 <sup>F</sup>                      | 0.000 <sup>F</sup>         | 0 <sup>F</sup>                                     | 0.000 <sup>F</sup>                      | 118 <sup>F</sup>                                        | 0.164 <sup>F</sup>                       |                                     |                    | 0.14 <sup>F</sup> |                       | 7.3 <sup>F</sup>                    |                            |                     |                                               |                           |
| Glycerin*                 | 0 <sup>C</sup> , 0.085 <sup>G</sup>     | 3.5 <sup>C</sup> , 3.805 <sup>G</sup> , 5.8 <sup>B</sup> | 0.13 <sup>G</sup> |                     | 20.39 <sup>G</sup>                  |                            | 2 <sup>G</sup> , 25 <sup>C</sup> -178 <sup>B</sup> |                                         | 16 <sup>C</sup> , 29 <sup>B</sup> , 108.95 <sup>G</sup> |                                          | 2 <sup>C</sup> , 11.86 <sup>G</sup> |                    |                   |                       | 10.5 <sup>B</sup> , 15 <sup>J</sup> |                            |                     | 0-18 <sup>C</sup> , <0.008 lb/hr <sup>G</sup> | <0.008 lb/hr <sup>G</sup> |
| No. 6 Oil                 | <2.8 <sup>I</sup>                       | 0.08 <sup>I</sup>                                        |                   | 0.124 <sup>H</sup>  |                                     | 1.57 <sup>H</sup>          |                                                    | 0.033 <sup>H</sup>                      |                                                         | 0.367 <sup>H</sup>                       |                                     | 0.002 <sup>H</sup> |                   |                       |                                     | 163.9 <sup>H</sup>         | 0.001 <sup>H</sup>  |                                               |                           |
| No. 2 Oil                 | 0.4-0.7 <sup>J</sup>                    | trace <sup>I</sup>                                       | 0.14 <sup>D</sup> | 0.024 <sup>H</sup>  | 16.9 <sup>D</sup> , 87 <sup>F</sup> | 0.51 <sup>H</sup>          | 2.2 <sup>D</sup> , 20 <sup>F</sup>                 | 0.036 <sup>H</sup>                      | 98 <sup>F</sup> , 110 <sup>D</sup>                      | 0.143 <sup>H</sup>                       | 0.7 <sup>D</sup>                    | 0.002 <sup>H</sup> | 0.31 <sup>F</sup> | 13.4 <sup>D</sup>     | 12.6 <sup>F</sup>                   | 159.8 <sup>H</sup>         | 0.0003 <sup>H</sup> |                                               | 1.88 <sup>D</sup>         |
| Natural Gas               |                                         |                                                          |                   | 0.007 <sup>H</sup>  | 0 <sup>F</sup>                      | 0.001 <sup>H</sup>         | 10 <sup>F</sup> , 25 <sup>C</sup>                  | 0.082 <sup>H</sup>                      | 35 <sup>C</sup> , 80 <sup>F</sup>                       | 0.098 <sup>H</sup>                       | 0 <sup>C</sup>                      | 0.005 <sup>H</sup> | 0.23 <sup>F</sup> |                       | 9.0 <sup>F</sup>                    | 118.3 <sup>H</sup>         | 0.002 <sup>H</sup>  |                                               |                           |
| LPG/Propane               |                                         |                                                          |                   | 0.008 <sup>H</sup>  |                                     | 0.016 <sup>H</sup>         | 15 <sup>B</sup>                                    | 0.082                                   | 36 <sup>B</sup>                                         | 0.142 <sup>H</sup>                       |                                     | 0.009 <sup>H</sup> |                   |                       | 9.7 <sup>B</sup>                    | 139.6 <sup>H</sup>         | 0.002 <sup>H</sup>  |                                               |                           |

\*Glycerin combustion emissions are from tests co-fired with natural gas, LPG, or yellow grease. Where possible, emissions from fuel mixes containing the greatest amount of glycerin were used in the table. Emissions from sources C and J were interpolated off graphs.

A. Sanimax Fat as Fuel Project Analysis, 2015

B. Cavalcante Jr., Francisco S. "Parameters Analysis of the Assisted Combustion of Residual Biodiesel Glycerol," State University of Ceará, Brazil, September 12, 2012. <http://tuengr.com/V03/455-465.pdf>

C. Queirós, Pedro. "Atomization and Co-Combustion of Crude Glycerin with Natural Gas and Hydrogen" <https://fenix.tecnico.ulisboa.pt/downloadFile/395143172913/Artigo%20da%20Tese,%20Final.pdf> (\*Emissions interpolated off graphs.

Where possible, emissions from fuel mixes containing the greatest amount of glycerin were used in the table.)

D. "Characterizing Emissions from the Combustion of Biofuels," U.S. EPA EPA/600/R-08/069, September 2008

E. Air Emissions Testing Report for Green Bay, WI Anamax Corporation Boilers, January 7 & 20, 2005 (Cleaver-Brooks boiler (99.5 MMBtu/hr) results only)

F. "A Demonstration of Fat and Grease as an Industrial Boiler Fuel," University of Georgia Athens Engineering Outreach Service, June 30, 2002. [http://www.biorefinery.uga.edu/docs/biofuel\\_oil\\_report.pdf](http://www.biorefinery.uga.edu/docs/biofuel_oil_report.pdf).

G. "Stack Emissions Evaluation: Combustion of Crude Glycerin and Yellow Grease in an Industrial Fire Tube Boiler," Agricultural Utilization Research Institute, April 13, 2007. <http://www.auri.org/wp-content/assets/legacy/research/Glycerin%20Report%20Final.pdf>

H. U.S. EPA AP 42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources

I. Flagan, Richard C. and Seinfeld, John H. (1988) "Fundamentals of Air pollution Engineering." Table 2.2. Prentice-Hall, Inc. , Englewood Cliffs, New Jersey. ISBN 0-13-332537-7

J. "Emissions and Temperature Measurements in Glycerol Flames," Department of Mechanical Engineering, University of Alabama, April 2012. [http://www.combustioninstitute.org/upload\\_resources/125-55.pdf](http://www.combustioninstitute.org/upload_resources/125-55.pdf)

*Yellow Grease*

Report to

**ANAMAX CORPORATION  
Green Bay, Wisconsin**

for

**AIR EMISSIONS TESTING  
of the  
CLEAVER-BROOKS BOILER (B05, S05),  
JOHNSTON BOILER (B06, S06), &  
RENDERING SCRUBBER (C12, S12) OPERATIONS**

**July 16-17, 2002**



Michael J. Huenink  
Industrial Hygienist  
August 16, 2002

**ENVIRONMENTAL TECHNOLOGY & ENGINEERING CORP  
13000 Bluemound Road - Elm Grove, Wisconsin 53122  
Phone: 262-784-2434 Fax: 262-784-2436**

## EXECUTIVE SUMMARY

*Yellow Grease*

On July 16-17, 2002, Environmental Technology & Engineering Corp personnel performed stack emissions testing at the Anamax Corporation plant in Green Bay, Wisconsin. Testing to determine regulated air emissions was performed on the new Cleaver-Brooks boiler (B05), the Johnston boiler (B06), and the rendering process scrubber (C12, S12). The purpose of the testing was to demonstrate compliance with permitted limits contained in WDNR Air Pollution Control Construction Permit No. 01-MHR-012.

At each of the exhaust stacks, testing for each parameter was performed during three separate one hour periods. The average of the three tests was calculated for comparison to the permit limits. The results of the testing are summarized in the following table:

| Stack Tested     | Test Parameter    | Average Measured Emission Rate  | WDNR Permit Limitation        |
|------------------|-------------------|---------------------------------|-------------------------------|
| C-B Boiler (B05) | Total Particulate | 0.87 lb/hr                      | 7.5 lb/hr                     |
|                  | Visibles          | 0 %                             | 20 %                          |
|                  | Carbon Monoxide   | 2.88 lb/hr                      | 36.1 lb/hr                    |
|                  | Nitrogen Oxides   | 7.89 lb/hr                      | 14.7 lb/hr                    |
|                  | Volatile Organics | 0.01 lb/hr                      | N.E.                          |
|                  | Formaldehyde      | 0.0016 lb/1000 gal <sup>1</sup> | 0.04 lb/1000 gal <sup>1</sup> |
| J Boiler (B06)   | Total Particulate | 0.52 lb/hr                      | 5.0 lb/hr                     |
|                  | Visibles          | 0 %                             | 20 %                          |
|                  | Carbon Monoxide   | 3.67 lb/hr                      | 18.1 lb/hr                    |
|                  | Nitrogen Oxides   | 5.98 lb/hr                      | 7.4 lb/hr                     |
|                  | Volatile Organics | 0.001 lb/hr                     | N.E.                          |
|                  | Formaldehyde      | 0.0057 lb/1000 gal <sup>1</sup> | 0.04 lb/1000 gal <sup>1</sup> |
| R Scrubber (S12) | Chloroform        | < 0.05 lb/hr                    | N.E.                          |

*723 gal.  
Y. Grease*

*234 gal.  
Y. Grease*

**Notes:** lb/hr means pounds per hour

N.E. means none established; however, permit required testing

(1) lb/1000 gal means pounds of emission per 1000 gallons of yellow grease

< means non-detectable, less than the limit of detection listed

As shown in the results table above, all of the measured emissions were below (in compliance with) the permit limitations.

## 1.0 GENERAL BACKGROUND

On July 16-17, 2002, Environmental Technology & Engineering Corp (ETE) personnel performed stack testing for air emissions at the Anamax Corporation facility located in Green Bay, Wisconsin. The testing was performed on the Cleaver-Brooks boiler, Johnston boiler, and Rendering Process Scrubber. The purpose of the testing was to demonstrate compliance with the emission limitations which were contained in Wisconsin Department of Natural Resources (WDNR) Permit No. 01-MHR-012.

Anamax is a rendering facility that processes inedible waste by-products from the meat/slaughter industry. Industrial boilers are used to provide steam for the process and to heat the facility. Boilers B05 and B06 can be fired with natural gas, distillate fuel oil, yellow grease, and animal tallow. Additionally, some rendering process gases (primary or non-condensable gas and secondary off-gas streams) are vented to the boiler operations (into the secondary combustion air) for air emissions and odor control. The Cleaver-Brooks Water Tube Boiler (B05, S05) has a rated heat input capacity of 99.5 million BTU's per hour (MMBTU/hr); the Johnston Boiler (B06, S06) has a rated capacity of 33.5 MMBTU/hr. The boilers are vented to atmosphere.

The rendering process involves the conversion of animal by-products to dry meat meal product and tallow. Maximum processing rates are normally in the range of 120,000 lb/hr. Gases from various points in the process (exclusive of the non-condensable gas and secondary off-gas streams) are directed to a Wet Air packed bed scrubber (P12,S12) for air emissions and odor control. The Wet Air packed bed scrubber utilizes a combination of sodium hypochlorite and ozone as the scrubbing agent. Under normal operating conditions, the two scrubbing agents are used together, resulting in a free chlorine concentration in the scrubber bath of less than 100 ppm. In the event that sodium hypochlorite is used exclusively as the scrubbing agent, the free chlorine residual concentration in the scrubber bath can range from 100 to 400 ppm. The scrubber exhaust is vented to atmosphere.

Testing on the boilers was performed while they were fired near maximum levels using yellow grease as the fuel. Production levels and boiler operating parameters were monitored and recorded at the boiler control system. These records are included in Appendix A. The boiler test conditions can be summarized as follows:

| Stack Tested | Test Date | Test | Test Period   | Boiler Heat Input (MMBTU/hr) | Boiler Steam Production (lb/hr) | Production Levels (1000 lb/hr) |
|--------------|-----------|------|---------------|------------------------------|---------------------------------|--------------------------------|
| Cl-Br Boiler | 7/16      | 1    | 10:02 - 11:05 | 94.25                        | 81,000 ✓                        | 125 - 130                      |
|              |           | 2    | 11:23 - 12:24 | 94.12                        | 81,644 ✓                        | 130 - 140                      |
|              |           | 3    | 12:40 - 13:42 | 93.86                        | 79,980 ✓                        | 110 - 140                      |
| J Boiler     | 7/17      | 1    | 07:52 - 08:54 | 31.59                        | 28,551                          | 90 - 95                        |
|              |           | 2    | 09:10 - 10:12 | 30.16                        | 27,829                          | 95                             |
|              |           | 3    | 10:33 - 11:34 | 29.38                        | 26,975                          | 95 - 105                       |

1.0 (continued)

During the testing on the rendering scrubber, the scrubber operating parameters were also recorded. They are shown below:

| Stack Tested | Test Date | Test | Test Period   | Production Levels (1000 lb/hr) | Scrubber Pressure Drop (in. H <sub>2</sub> O) | Scrubber Flow Rate (gal./hr) |
|--------------|-----------|------|---------------|--------------------------------|-----------------------------------------------|------------------------------|
| R Scrubber   | 7/16      | 1    | 13:00 - 14:00 | 110 - 140                      | 2.75                                          | 444                          |
|              |           | 2    | 14:01 - 15:01 | 110                            | 2.75                                          | 456                          |
|              |           | 3    | 15:02 - 16:02 | 109 - 110                      | 2.75                                          | 432                          |

Mr. Tim Wolf of Anamax Corporation facilitated in the coordination of the testing and production activities. Messrs. Jon Spear and Adam Paul, interns at the WDNR - Bureau of Air Management offices in Madison witnessed the test efforts and production activities. The field tests, corresponding laboratory analysis (unless noted), calculations, and report preparation were performed by ETE personnel; Michael Huenink was the test team leader. The formaldehyde sample analysis was performed by DAT Labs in Plain City, Ohio.

## 2.0 RESULTS

### 2.1 Total Particulate Emissions

Testing to determine total particulate emissions from the boiler operations was performed using EPA Methods 5 and 202 (analysis for condensible particulates). A brief description of the test methods and sampling train are included in Section 3.1 of this report. The testing was performed at the sample locations shown in Figures 2-1 (Cleaver-Brooks) and 2-2 (Johnston). Testing on the two stacks was performed using 24 different sampling points (twelve along each of two perpendicular traverses).

The stack flow parameters recorded during testing and the weights of the filterable and condensible particulate collected were used to calculate the total particulate emissions for each test. The results for the Cleaver-Brooks boiler are included as Tables 2-1, 2-2, and 2-3; the Johnston boiler results are included as Tables 2-4, 2-5, and 2-6. All of the results indicated particulate emission levels below (in compliance with) the applicable permit limits. The results can be summarized as follows:

| Boiler         | Test | Total Particulate Emission Rate | WDNR Permit Particulate Limitation |
|----------------|------|---------------------------------|------------------------------------|
| Cleaver-Brooks | 1    | 1.09 lb/hr                      |                                    |
|                | 2    | 1.02 lb/hr                      |                                    |
|                | 3    | 0.50 lb/hr                      |                                    |
|                | AVG  | 0.87 lb/hr                      | 7.5 lb/hr                          |
| Johnston       | 1    | 0.43 lb/hr                      |                                    |
|                | 2    | 0.56 lb/hr                      |                                    |
|                | 3    | 0.58 lb/hr                      |                                    |
|                | AVG  | 0.52 lb/hr                      | 5.0 lb/hr                          |

### 2.2 Visible Emissions

Visible emissions testing was performed on the two boiler stacks according to the procedures outlined in EPA Method 9. A certified opacity observer recorded observations every 15 seconds during three separate 18 minute periods on each stack. The readings were taken at the same time as the test efforts for the other test parameters. All of the readings indicated that there were no visible emissions present (0% opacity). These levels were less than the 20 percent opacity limits contained in the WDNR permit.

### 2.3 Formaldehyde Emissions

Formaldehyde testing was performed on each boiler stack using an EPA Method 0011 sampling train as described in Section 3.2. The testing was performed at the same time as the particulate test efforts; similarly, three separate one hour tests were performed. Formaldehyde emissions were regulated relative to fuel feed rates in the WDNR permit (pounds of formaldehyde emissions per thousand gallons of fuel feed, "lb/1000 gal"). The results of the testing are presented in Table 2-7. The results indicated formaldehyde emissions below (in compliance with) the permit limit of 0.04 lb/1000 gal.

### 2.4 Carbon Monoxide Emissions

Testing to determine carbon monoxide emissions from the boiler stacks was performed using EPA Method 10. Integrated bag samples were collected and analyzed as described in Section 3.3. Again, the sampling was performed during the particulate test efforts for three separate one hour periods. The results of the testing are included as Table 2-8. All of the results indicated emission levels below (in compliance with) the permit limitations of 36.1 lb/hr (Cleaver-Brooks) and 18.1 (Johnston).

### 2.5 Nitrogen Oxides Emissions

Testing to determine nitrogen oxides emissions from the boiler stacks was performed using EPA Method 7E. Integrated bag samples were collected and analyzed as described in Section 3.3. Again, the sampling was performed during the particulate test efforts for three separate one hour periods. The results of the testing are included as Table 2-9. All of the results indicated emission levels below (in compliance with) the permit limitations of 14.7 lb/hr (Cleaver-Brooks) and 7.4 (Johnston).

### 2.6 Volatile Organic Compound Emissions

Testing to determine volatile organic compound (VOC) emissions from the boilers was performed according to EPA Method 25A (see Section 3.4). Three separate hours of readings were taken on each boiler exhaust stack during the test efforts. The VOC response of the analyzer was quantified using standard concentrations of propane in nitrogen. Results were averaged over each hour of testing to calculate VOC emissions.

The VOC results from the Cleaver-Brooks boiler are included in Tables 2-10A, B, and C; the Johnston boiler VOC results are included in Tables 2-11A, B, and C. All of the results indicated very low VOC levels, near the detection level of EPA Method 25A. The VOC emissions were not assigned an emission limit in the permit; however, the testing was required by the permit.

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**ANAMAX - GREEN BAY  
CLEAVER BROOKS & JOHNSTON BOILERS  
FORMALDEHYDE RESULTS**

**TABLE 2-7**

| Boiler Tested  | Test | Meter Vol. ft3 | Meter Temp deg F | Standard Vol liters | Form Captured ug | Form Conc mg/m3 | Flow Rate m3/hr | Form ER lb/hr | Production Rate gal/hr | Emission Factor lb/1000 gal |
|----------------|------|----------------|------------------|---------------------|------------------|-----------------|-----------------|---------------|------------------------|-----------------------------|
| CleaverBrooks  | 1    | 3.00           | 85               | 86.84               | 1.4              | 0.016           | 30023           | 0.0011        | 725                    | 0.0015                      |
|                | 2    | 3.14           | 86               | 90.73               | 1.8              | 0.020           | 29530           | 0.0013        | 724                    | 0.0018                      |
|                | 3    | 3.14           | 87               | 90.56               | 1.5              | 0.017           | 31394           | 0.0011        | 722                    | 0.0016                      |
| <b>AVERAGE</b> |      |                |                  |                     |                  |                 |                 |               |                        |                             |
| Johnston       | 1    | 3.00           | 75               | 88.41               | 4.7              | 0.053           | 11005           | 0.0013        | 243                    | 0.0053                      |
|                | 2    | 3.16           | 78               | 92.60               | 6.2              | 0.067           | 11209           | 0.0017        | 232                    | 0.0071                      |
|                | 3    | 3.00           | 82               | 87.26               | 3.8              | 0.044           | 11078           | 0.0011        | 226                    | 0.0047                      |
| <b>AVERAGE</b> |      |                |                  |                     |                  |                 |                 |               |                        |                             |

Meter Gamma  
Bar.Pressure

1.073  
29.42 (Day 1)      29.40 (Day 2)

Calculations

Standard Volume = Meter Vol \* Meter Gama\*Bar.Pressure\*28.32\*528/(29.92\*(460+Meter Temp))  
Concentration = ug/liters = mg/m3  
Emission Rate = mg/m3 \* m3/hr/453600

ANAMAX CORP - GREEN BAY PLANT  
 CLEAVER-BROOKS & JOHNSTON BOILERS  
 CARBON MONOXIDE RESULTS - 7/16 & 7/17/02

TABLE 2-8

| Boiler Tested  | Test No. | CO Level (ppm) | CO Level (mg/m3) | Std. Air Flow Rate (m3/hr) | CO Emission Rate (lb/hr) |
|----------------|----------|----------------|------------------|----------------------------|--------------------------|
| Cleaver-Brooks | 1        | 43             | 50               | 30023                      | 3.31                     |
|                | 2        | 33             | 38               | 29530                      | 2.50                     |
|                | 3        | 35             | 41               | 31394                      | 2.82                     |
|                | AVG      | 37             | 43               |                            | 2.88                     |
| Johnston       | 1        | 126            | 147              | 11005                      | 3.56                     |
|                | 2        | 165            | 192              | 11209                      | 4.75                     |
|                | 3        | 95             | 111              | 11078                      | 2.70                     |
|                | AVG      | 129            | 150              |                            | 3.67                     |

*0.00328 lbs./hr*  
*ga*

**Notes:** mg/m3 CO = ppm CO \* 28.01/24.05  
 Emission Rate = mg/m3\*m3/hr\*(1 lb/453600 mg)

**ANAMAX CORP - GREEN BAY PLANT  
CLEAVER-BROOKS & JOHNSTON BOILERS  
NITROGEN OXIDE RESULTS - 7/16 & 7/17/02**

**TABLE 2-9**

| <b>Boiler Tested</b> | <b>Test No.</b> | <b>NOx Level (ppm)</b> | <b>NOx Level (mg/m3)</b> | <b>Std. Air Flow Rate (m3/hr)</b> | <b>NOx Emission Rate (lb/hr)</b> |
|----------------------|-----------------|------------------------|--------------------------|-----------------------------------|----------------------------------|
| Cleaver-Brooks       | 1               | 59                     | 113                      | 30023                             | 7.47                             |
|                      | 2               | 62                     | 119                      | 29530                             | 7.72                             |
|                      | 3               | 64                     | 122                      | 31394                             | 8.47                             |
|                      | <b>AVG</b>      | <b>62</b>              | <b>118</b>               |                                   | <b>7.89</b>                      |
| Johnston             | 1               | 125                    | 239                      | 11005                             | 5.80                             |
|                      | 2               | 128                    | 245                      | 11209                             | 6.05                             |
|                      | 3               | 130                    | 249                      | 11078                             | 6.07                             |
|                      | <b>AVG</b>      | <b>128</b>             | <b>244</b>               |                                   | <b>5.98</b>                      |

**Notes:**       $\text{mg/m}^3 \text{ NOx} = \text{ppm NOx} * 46.01/24.05$   
                   $\text{Emission Rate} = \text{mg/m}^3 * \text{m}^3/\text{hr} * (1 \text{ lb}/453600 \text{ mg})$

**ANAMAX CORP - GREEN BAY  
CLEAVER BROOKS EXHAUST STACK  
VOC TEST RESULTS**

**TABLE 2-10A**

**TEST 1**

**7/16/02**

| <b>TIME</b>                     | <b>VOC<br/>PPM</b> | <b>TIME</b>  | <b>VOC<br/>PPM</b> |
|---------------------------------|--------------------|--------------|--------------------|
| 1                               | 0.7                | 31           | 0.3                |
| 2                               | 0.6                | 32           | 0.1                |
| 3                               | 0.4                | 33           | 0.0                |
| 4                               | 0.3                | 34           | 0.0                |
| 5                               | 0.1                | 35           | 0.0                |
| 6                               | 0.1                | 36           | 0.0                |
| 7                               | 0.1                | 37           | 0.1                |
| 8                               | 0.2                | 38           | 0.1                |
| 9                               | 0.2                | 39           | 0.0                |
| 10                              | 0.2                | 40           | 0.0                |
| 11                              | 0.3                | 41           | 0.0                |
| 12                              | 0.2                | 42           | 0.1                |
| 13                              | 0.1                | 43           | 0.0                |
| 14                              | 0.1                | 44           | 0.0                |
| 15                              | 0.1                | 45           | 0.0                |
| 16                              | 0.1                | 46           | 0.0                |
| 17                              | 0.1                | 47           | 0.0                |
| 18                              | 0.1                | 48           | 0.0                |
| 19                              | 1.1                | 49           | 0.1                |
| 20                              | 0.6                | 50           | 0.1                |
| 21                              | 0.4                | 51           | 0.0                |
| 22                              | 0.1                | 52           | 0.0                |
| 23                              | 0.1                | 53           | 0.1                |
| 24                              | 0.2                | 54           | 0.1                |
| 25                              | 0.1                | 55           | 0.0                |
| 26                              | 0.1                | 56           | 0.0                |
| 27                              | 0.1                | 57           | 0.1                |
| 28                              | 0.1                | 58           | 0.0                |
| 29                              | 0.2                | 59           | 0.1                |
| 30                              | 0.1                | 60           | 0.0                |
| <b>AVG TOTAL VOC AS PROPANE</b> |                    | <b>0.14</b>  | <b>PPM</b>         |
| <b>METHANE CORRECTION</b>       |                    | <b>0.00</b>  | <b>PPM</b>         |
| <b>TGNMO AS PROPANE</b>         |                    | <b>0.14</b>  | <b>PPM</b>         |
| <b>TGNMO (AS PROPANE)</b>       |                    | <b>0.26</b>  | <b>MG/M3</b>       |
| <b>FLOW RATE</b>                |                    | <b>30023</b> | <b>M3/HR</b>       |
| <b>EMISSION RATE</b>            |                    | <b>0.017</b> | <b>LB/HR</b>       |

**ANAMAX CORP - GREEN BAY  
CLEAVER BROOKS EXHAUST STACK  
VOC TEST RESULTS**

**TABLE 2-10B**

**TEST 2**

**7/16/02**

| <b>TIME</b> | <b>VOC<br/>PPM</b> | <b>TIME</b> | <b>VOC<br/>PPM</b> |
|-------------|--------------------|-------------|--------------------|
| 1           | 0.0                | 31          | 0.0                |
| 2           | 0.0                | 32          | 0.0                |
| 3           | 0.0                | 33          | 0.1                |
| 4           | 0.0                | 34          | 0.0                |
| 5           | 0.1                | 35          | 0.0                |
| 6           | 0.0                | 36          | 0.1                |
| 7           | 0.0                | 37          | 0.0                |
| 8           | 0.2                | 38          | 0.0                |
| 9           | 0.3                | 39          | 0.0                |
| 10          | 0.2                | 40          | 0.2                |
| 11          | 0.1                | 41          | 0.1                |
| 12          | 0.2                | 42          | 0.1                |
| 13          | 0.2                | 43          | 0.1                |
| 14          | 0.1                | 44          | 0.0                |
| 15          | 0.2                | 45          | 0.2                |
| 16          | 0.2                | 46          | 0.1                |
| 17          | 0.1                | 47          | 0.0                |
| 18          | 0.0                | 48          | 0.0                |
| 19          | 0.0                | 49          | 0.0                |
| 20          | 0.0                | 50          | 0.0                |
| 21          | 0.0                | 51          | 0.0                |
| 22          | 0.0                | 52          | 0.1                |
| 23          | 0.0                | 53          | 0.1                |
| 24          | 0.0                | 54          | 0.0                |
| 25          | 0.0                | 55          | 0.2                |
| 26          | 0.0                | 56          | 0.1                |
| 27          | 0.1                | 57          | 0.0                |
| 28          | 0.1                | 58          | 0.0                |
| 29          | 0.1                | 59          | 0.1                |
| 30          | 0.1                | 60          | 0.0                |

|                                 |              |              |
|---------------------------------|--------------|--------------|
| <b>AVG TOTAL VOC AS PROPANE</b> | <b>0.07</b>  | <b>PPM</b>   |
| <b>METHANE CORRECTION</b>       | <b>0</b>     | <b>PPM</b>   |
| <b>TGNMO AS PROPANE</b>         | <b>0.07</b>  | <b>PPM</b>   |
| <b>TGNMO (AS PROPANE)</b>       | <b>0.12</b>  | <b>MG/M3</b> |
| <b>FLOW RATE</b>                | <b>29530</b> | <b>M3/HR</b> |
| <b>EMISSION RATE</b>            | <b>0.008</b> | <b>LB/HR</b> |

**ANAMAX CORP - GREEN BAY  
CLEAVER BROOKS EXHAUST STACK  
VOC TEST RESULTS**

**TABLE 2-10C**

**TEST 3**

**7/16/02**

| <b>TIME</b> | <b>VOC<br/>PPM</b> | <b>TIME</b> | <b>VOC<br/>PPM</b> |
|-------------|--------------------|-------------|--------------------|
| 1           | 0.0                | 31          | 0.1                |
| 2           | 0.0                | 32          | 0.1                |
| 3           | 0.0                | 33          | 0.0                |
| 4           | 0.0                | 34          | 0.0                |
| 5           | 0.0                | 35          | 0.0                |
| 6           | 0.1                | 36          | 0.1                |
| 7           | 0.1                | 37          | 0.1                |
| 8           | 0.0                | 38          | 0.0                |
| 9           | 0.0                | 39          | 0.2                |
| 10          | 0.0                | 40          | 0.1                |
| 11          | 0.0                | 41          | 0.1                |
| 12          | 0.0                | 42          | 0.2                |
| 13          | 0.0                | 43          | 0.1                |
| 14          | 0.2                | 44          | 0.0                |
| 15          | 0.1                | 45          | 0.0                |
| 16          | 0.1                | 46          | 0.1                |
| 17          | 0.1                | 47          | 0.0                |
| 18          | 0.1                | 48          | 0.0                |
| 19          | 0.0                | 49          | 0.0                |
| 20          | 0.0                | 50          | 0.1                |
| 21          | 0.0                | 51          | 0.0                |
| 22          | 0.1                | 52          | 0.0                |
| 23          | 0.0                | 53          | 0.0                |
| 24          | 0.1                | 54          | 0.1                |
| 25          | 0.0                | 55          | 0.0                |
| 26          | 0.1                | 56          | 0.0                |
| 27          | 0.0                | 57          | 0.0                |
| 28          | 0.1                | 58          | 0.0                |
| 29          | 0.0                | 59          | 0.0                |
| 30          | 0.0                | 60          | 0.0                |

|                                 |              |              |
|---------------------------------|--------------|--------------|
| <b>AVG TOTAL VOC AS PROPANE</b> | <b>0.04</b>  | <b>PPM</b>   |
| <b>METHANE CORRECTION</b>       | <b>0</b>     | <b>PPM</b>   |
| <b>TGNMO AS PROPANE</b>         | <b>0.04</b>  | <b>PPM</b>   |
| <b>TGNMO (AS PROPANE)</b>       | <b>0.08</b>  | <b>MG/M3</b> |
| <b>FLOW RATE</b>                | <b>31394</b> | <b>M3/HR</b> |
| <b>EMISSION RATE</b>            | <b>0.005</b> | <b>LB/HR</b> |

ANAMAX CORP - GREEN BAY  
JOHNSTON BOILER EXHAUST STACK  
VOC TEST RESULTS

TABLE 2-11A

TEST 1

7/17/02

| TIME | VOC<br>PPM | TIME | VOC<br>PPM |
|------|------------|------|------------|
| 1    | 0.4        | 31   | 0.0        |
| 2    | 0.4        | 32   | 0.0        |
| 3    | 0.4        | 33   | 0.0        |
| 4    | 0.3        | 34   | 0.0        |
| 5    | 0.2        | 35   | 0.0        |
| 6    | 0.2        | 36   | 0.0        |
| 7    | 0.2        | 37   | 0.0        |
| 8    | 0.2        | 38   | 0.0        |
| 9    | 0.3        | 39   | 0.0        |
| 10   | 0.1        | 40   | 0.0        |
| 11   | 0.1        | 41   | 0.0        |
| 12   | 0.2        | 42   | 0.0        |
| 13   | 0.1        | 43   | 0.0        |
| 14   | 0.1        | 44   | 0.0        |
| 15   | 0.0        | 45   | 0.0        |
| 16   | 0.1        | 46   | 0.0        |
| 17   | 0.0        | 47   | 0.0        |
| 18   | 0.0        | 48   | 0.0        |
| 19   | 0.0        | 49   | 0.0        |
| 20   | 0.0        | 50   | 0.0        |
| 21   | 0.0        | 51   | 0.0        |
| 22   | 0.0        | 52   | 0.0        |
| 23   | 0.0        | 53   | 0.0        |
| 24   | 0.0        | 54   | 0.0        |
| 25   | 0.0        | 55   | 0.0        |
| 26   | 0.0        | 56   | 0.0        |
| 27   | 0.0        | 57   | 0.0        |
| 28   | 0.1        | 58   | 0.0        |
| 29   | 0.0        | 59   | 0.0        |
| 30   | 0.0        | 60   | 0.0        |

|                          |       |       |
|--------------------------|-------|-------|
| AVG TOTAL VOC AS PROPANE | 0.06  | PPM   |
| METHANE CORRECTION       | 0.00  | PPM   |
| TGNMO AS PROPANE         | 0.06  | PPM   |
| TGNMO (AS PROPANE)       | 0.10  | MG/M3 |
| FLOW RATE                | 11005 | M3/HR |
| EMISSION RATE            | 0.003 | LB/HR |

**ANAMAX CORP - GREEN BAY  
JOHNSTON BOILER EXHAUST STACK  
VOC TEST RESULTS**

**TABLE 2-11B**

**TEST 2**

**7/17/02**

| <b>TIME</b>                     | <b>VOC<br/>PPM</b> | <b>TIME</b>   | <b>VOC<br/>PPM</b> |
|---------------------------------|--------------------|---------------|--------------------|
| 1                               | 0.0                | 31            | 0.0                |
| 2                               | 0.0                | 32            | 0.0                |
| 3                               | 0.0                | 33            | 0.0                |
| 4                               | 0.0                | 34            | 0.0                |
| 5                               | 0.1                | 35            | 0.0                |
| 6                               | 0.1                | 36            | 0.0                |
| 7                               | 0.0                | 37            | 0.0                |
| 8                               | 0.0                | 38            | 0.0                |
| 9                               | 0.0                | 39            | 0.0                |
| 10                              | 0.0                | 40            | 0.0                |
| 11                              | 0.0                | 41            | 0.0                |
| 12                              | 0.0                | 42            | 0.0                |
| 13                              | 0.0                | 43            | 0.0                |
| 14                              | 0.0                | 44            | 0.0                |
| 15                              | 0.0                | 45            | 0.0                |
| 16                              | 0.0                | 46            | 0.0                |
| 17                              | 0.0                | 47            | 0.0                |
| 18                              | 0.0                | 48            | 0.0                |
| 19                              | 0.0                | 49            | 0.0                |
| 20                              | 0.0                | 50            | 0.0                |
| 21                              | 0.0                | 51            | 0.0                |
| 22                              | 0.0                | 52            | 0.0                |
| 23                              | 0.0                | 53            | 0.0                |
| 24                              | 0.0                | 54            | 0.0                |
| 25                              | 0.0                | 55            | 0.0                |
| 26                              | 0.0                | 56            | 0.0                |
| 27                              | 0.0                | 57            | 0.0                |
| 28                              | 0.0                | 58            | 0.0                |
| 29                              | 0.0                | 59            | 0.0                |
| 30                              | 0.0                | 60            | 0.0                |
| <b>AVG TOTAL VOC AS PROPANE</b> |                    | <b>0.003</b>  | <b>PPM</b>         |
| <b>METHANE CORRECTION</b>       |                    | <b>0.000</b>  | <b>PPM</b>         |
| <b>TGNMO AS PROPANE</b>         |                    | <b>0.003</b>  | <b>PPM</b>         |
| <b>TGNMO (AS PROPANE)</b>       |                    | <b>0.006</b>  | <b>MG/M3</b>       |
| <b>FLOW RATE</b>                |                    | <b>11209</b>  | <b>M3/HR</b>       |
| <b>EMISSION RATE</b>            |                    | <b>0.0002</b> | <b>LB/HR</b>       |



**ANAMAX CORP - GREEN BAY  
JOHNSTON BOILER EXHAUST STACK  
VOC TEST RESULTS**

**TABLE 2-11C**

**TEST 3**

**7/17/02**

| <b>TIME</b> | <b>VOC<br/>PPM</b> | <b>TIME</b> | <b>VOC<br/>PPM</b> |
|-------------|--------------------|-------------|--------------------|
| 1           | 0.0                | 31          | 0.1                |
| 2           | 0.0                | 32          | 0.0                |
| 3           | 0.0                | 33          | 0.1                |
| 4           | 0.0                | 34          | 0.0                |
| 5           | 0.0                | 35          | 0.0                |
| 6           | 0.0                | 36          | 0.1                |
| 7           | 0.0                | 37          | 0.0                |
| 8           | 0.0                | 38          | 0.0                |
| 9           | 0.0                | 39          | 0.0                |
| 10          | 0.0                | 40          | 0.0                |
| 11          | 0.0                | 41          | 0.0                |
| 12          | 0.0                | 42          | 0.0                |
| 13          | 0.0                | 43          | 0.0                |
| 14          | 0.0                | 44          | 0.0                |
| 15          | 0.0                | 45          | 0.0                |
| 16          | 0.0                | 46          | 0.0                |
| 17          | 0.0                | 47          | 0.0                |
| 18          | 0.0                | 48          | 0.0                |
| 19          | 0.0                | 49          | 0.0                |
| 20          | 0.0                | 50          | 0.0                |
| 21          | 0.0                | 51          | 0.1                |
| 22          | 0.0                | 52          | 0.0                |
| 23          | 0.0                | 53          | 0.0                |
| 24          | 0.0                | 54          | 0.0                |
| 25          | 0.0                | 55          | 0.0                |
| 26          | 0.0                | 56          | 0.0                |
| 27          | 0.0                | 57          | 0.0                |
| 28          | 0.0                | 58          | 0.0                |
| 29          | 0.0                | 59          | 0.0                |
| 30          | 0.0                | 60          | 0.0                |

|                                 |               |              |
|---------------------------------|---------------|--------------|
| <b>AVG TOTAL VOC AS PROPANE</b> | <b>0.007</b>  | <b>PPM</b>   |
| <b>METHANE CORRECTION</b>       | <b>0.000</b>  | <b>PPM</b>   |
| <b>TGNMO AS PROPANE</b>         | <b>0.007</b>  | <b>PPM</b>   |
| <b>TGNMO (AS PROPANE)</b>       | <b>0.012</b>  | <b>MG/M3</b> |
| <b>FLOW RATE</b>                | <b>11209</b>  | <b>M3/HR</b> |
| <b>EMISSION RATE</b>            | <b>0.0003</b> | <b>LB/HR</b> |

## 2.7 Chloroform Emissions from the Rendering Scrubber (S12)

Chloroform testing was performed on the rendering scrubber (S12) while it was operating in the combined ozone/hypochlorite condition. Three one hour tests were performed on the final exhaust stack of the scrubber (see Figure 2-3) using a method developed by the Paper Council's National Council for Air and Stream Improvement (NCASI) and described in Technical Bulletin 531. The methods are described in Section 3.5 of this report.

The results of the testing indicated chloroform levels below the limit of detection. The results of the testing are included as Table 2-12. Similar to the VOC testing, the chloroform emissions were not assigned a specific emission limit in the permit; however, the testing was required by the permit.

TABLE 2-12

ANAMAX - GREEN BAY  
RENDERING SCRUBBER EXHAUST  
CHLOROFORM RESULTS  
7/16/02

| Sample Location | Test | Chloroform Captured (mg) | Standard Sample Vol. (m3) | Measured Chloroform Conc. (mg/m3) | Std. Air Flow Rate (m3/hr) | Chloroform Emission Rate (lb/hr) |
|-----------------|------|--------------------------|---------------------------|-----------------------------------|----------------------------|----------------------------------|
| Stack           | 1    | < 0.002                  | 0.00837                   | < 0.2                             | 93267                      | < 0.05                           |
|                 | 2    | < 0.002                  | 0.0105                    | < 0.2                             | 97182                      | < 0.04                           |
|                 | 3    | < 0.002                  | 0.00853                   | < 0.2                             | 95545                      | < 0.05                           |
|                 |      |                          |                           |                                   | AVERAGE -                  | < 0.05                           |

Emission Rate = mg/m3\*m3/hr\*(1 lb/453600 mg)

*follow*

Report to

**ANAMAX CORPORATION  
Green Bay, Wisconsin**

for

**AIR EMISSIONS TESTING**

on the

**JOHNSTON BOILER (B06, S06) &  
CLEAVER-BROOKS BOILER (B05, S05)  
EXHAUST STACKS**

**WDNR Permit No. 01-MHR-012OP**

**January 7 & 20, 2005**



Michael J. Huenink  
Industrial Hygienist  
February 10, 2005

**ENVIRONMENTAL TECHNOLOGY & ENGINEERING CORP  
13000 W. Bluemound Road Elm Grove, Wisconsin 53122  
Phone: (262) 784-2434 Fax: (262) 784 -2436**

## EXECUTIVE SUMMARY

On January 7 and 20, 2005, Environmental Technology & Engineering Corp (ETE) personnel visited the Anamax Corporation plant in Green Bay, Wisconsin. The purpose of the visit was to perform stack emissions testing on the Johnston (B06, S06) and Cleaver-Brooks (B05, S05) boiler operations. The testing was performed to demonstrate compliance with the particulate matter, nitrous oxides (NOx), carbon monoxide (CO), and visible air emissions limits contained in Wisconsin Department of Natural Resources (WDNR) Air Pollution Control Permit No. 01-MHR-012OP. The permit requires periodic testing of the operations; the stacks were previously tested for initial compliance demonstration in July 2002.

The operations were tested under high steam production conditions, while being fired with tallow and while receiving rendering process gases. **The results of the testing indicated that the all of the tested emissions were below (in compliance with) the permit limits as shown below:**

| Stack Tested          | Test Date | Test Parameter    | Average Measured Emission Rate | WDNR Permit Limitation |
|-----------------------|-----------|-------------------|--------------------------------|------------------------|
| Johnston Boiler       | 1/7       | Total Particulate | 0.41 lb/hr                     | 5.0 lb/hr              |
|                       |           | NOx               | 6.33 lb/hr                     | 7.4 lb/hr              |
|                       |           | CO                | 0.35 lb/hr                     | 18.1 lb/hr             |
|                       |           | Visibles          | 0 %                            | 20 %                   |
| Cleaver-Brooks Boiler | 1/20      | Total Particulate | 1.02 lb/hr                     | 7.5 lb/hr              |
|                       |           | NOx               | 10.95 lb/hr                    | 14.7 lb/hr             |
|                       |           | CO                | 0.75 lb/hr                     | 36.1 lb/hr             |
|                       |           | Visibles          | 0 %                            | 20 %                   |

## 1.0 GENERAL

On January 7 and 20, 2005, Environmental Technology & Engineering Corp (ETE) personnel visited the Anamax Corporation plant located in Green Bay, Wisconsin. The purpose of the visit was to perform air emissions testing on the final exhaust stacks of Johnston (B06, S06) and Cleaver-Brooks (B05, S05) boiler operations. The testing was performed to demonstrate compliance with the total particulate, nitrous oxides (NO<sub>x</sub>), carbon monoxide (CO), and visible air emission limits contained in Wisconsin Department of Natural Resources (WDNR) Air Pollution Control Permit No. 01-MHR-012OP. Compliance testing was previously performed on this stack in July, 2002.

Anamax is a rendering facility that processes inedible waste by-products from the meat/slaughter industry. Industrial boilers are used to provide steam for the process and to heat the facility. Boilers B05 and B06 can be fired with natural gas, distillate fuel oil, yellow greases, and animal tallow. Additionally, some rendering process gases (primary, or non-condensable gas, and secondary off-gas streams) are vented to the boiler operations (into the secondary combustion air) for air emissions and odor control. The Cleaver Brooks Water Tube Boiler (B05) has a rated heat input capacity of ~~103.6~~ <sup>99.5</sup> MMBTU/hr; the Johnson Boiler (B06) has a rated heat input capacity of 33.5 MMBTU/hr. The boiler exhaust gases are vented to atmosphere.

Testing on the boilers occurred with heat input levels near the maximum rating. The testing was performed while each of the boilers was fired with tallow. Fuel usage was recorded throughout the test efforts by Anamax personnel. Those records are included in Appendix A of this report. During the boiler testing, the rendering process gases (noted above) were also vented to the boilers. The boiler operating conditions can be summarized as follows:

| Boiler Tested | Test Date | Test Hour | Test Period   | Tallow Fuel Feed Rate | Boiler Heat Input (1) | Boiler Steam Production |
|---------------|-----------|-----------|---------------|-----------------------|-----------------------|-------------------------|
| Johnston      | 1/7       | 1         | 10:18 - 11:20 | 170 gal/hr            | 22.01 MMBTU/hr        | 22,200 lb/hr            |
|               |           | 2         | 11:30 - 12:31 | 170 gal/hr            | 22.01 MMBTU/hr        | 21,000 lb/hr            |
|               |           | 3         | 12:35 - 13:36 | 170 gal/hr            | 22.01 MMBTU/hr        | 21,200 lb/hr            |
| Clvr-Brooks   | 1/20      | 1         | 10:03 - 11:05 | 711 gal/hr            | 92.03 MMBTU/hr        | 78,000 lb/hr            |
|               |           | 2         | 11:10 - 12:11 | 788 gal/hr            | 102.0 MMBTU/hr        | 78,500 lb/hr            |
|               |           | 3         | 12:30 - 13:31 | 763 gal/hr            | 98.77 MMBTU/hr        | 78,700 lb/hr            |
|               |           |           |               |                       |                       |                         |

Notes: (1) Calculated from tallow feed, using a heat value of 129,444 Btu/gallon (per Anamax)

Mr. Tim Wolf of Anamax facilitated in the coordination of the production conditions and field test efforts. Mr. Jim Crawford of the WDNR - Northeast Region office in Green Bay reviewed the "Stack Test Plan" pre-notification document, but did not witness the test efforts and conditions. The field test and analytical efforts were performed by ETE personnel; Michael Huenink was the test team leader.

## 2.0 RESULTS

### 2.1 Total Particulate Results

Testing to determine total particulate emissions was performed isokinetically using EPA Method 5. A brief description of the method is included in Section 3.2 of this report. A sketch showing the sampling locations on the final discharge stacks are included as Figures 2-1 and 2-2.

The stack flow parameters measured during testing and the weights of the particulate collected were used to determine the emissions for each test. Three separate one hour tests were performed on each stack. The particulate emission results for the Johnston boiler are included as Tables 2-1, 2-2, and 2-3; the Cleaver-Brooks results are included as Tables 2-4, 2-5, and 2-6. The results indicated total particulate emission levels that were well below (in compliance with) the permit limits. The results were as follows:

| Boiler Tested  | Test Date | Test | Total Particulate Emission Rate | WDNR Permit Limit |
|----------------|-----------|------|---------------------------------|-------------------|
| Johnston       | 1/7       | 1    | 0.45 lb/hr                      |                   |
|                |           | 2    | 0.40 lb/hr                      |                   |
|                |           | 3    | 0.39 lb/hr                      |                   |
|                |           | AVG  | 0.41 lb/hr                      | 5.0 lb/hr         |
|                |           |      |                                 |                   |
| Cleaver-Brooks | 1/20      | 1    | 1.09 lb/hr                      |                   |
|                |           | 2    | 0.96 lb/hr                      |                   |
|                |           | 3    | 1.02 lb/hr                      |                   |
|                |           | AVG  | 1.02 lb/hr                      | 7.5 lb/hr         |
|                |           |      |                                 |                   |

### 2.2 Nitrous Oxides Results

Testing to determine nitrogen oxides (NO<sub>x</sub>) emissions was performed using EPA Method 7E. A description of those sampling and analytical techniques are included in Section 3.3 of this report. The testing was performed at the same time as the particulate test efforts. The results of the NO<sub>x</sub> testing are included as Table 2-7. Again, the NO<sub>x</sub> results indicated emission levels which were below (in compliance with) the applicable permit limits.

### 2.3 Carbon Monoxide Results

Testing to determine carbon monoxide (CO) emissions was performed using EPA Method 10 (further described in Section 3.3). Again, the testing was performed at the same time as the particulate test efforts. The results of the CO testing are included in Table 2-8. The CO results indicated emission levels which were well below (in compliance with) the applicable permit limits.

## 2.4 Visible Emissions Readings

In conjunction with the particulate test efforts, visible emissions readings were also taken during each of the three test periods. Readings were taken every 15 seconds (over a 18 minute period) by an EPA certified opacity observer. All readings indicated that visible emissions were not present (0% opacity). The readings indicated visible emissions that were well below the permit limitation of 20 percent. The observations are included in Appendix B of this report.



**NITROUS OXIDES TEST RESULTS  
JOHNSTON & CLEAVER BROOKS BOILER EXHAUSTS  
ANAMAX CORP - GREEN BAY  
JANUARY 7 & 20, 2005**

**TABLE 2-7**

| <b>Stack</b>     | <b>Test Date</b>           | <b>Test</b> | <b>Measured NOx Level (ppm)</b> | <b>Measured NOx Level (mg/m3)</b> | <b>Standard Exhaust Flow Rate (m3/hr)</b> | <b>NOx Emission Rate (lb/hr)</b> |
|------------------|----------------------------|-------------|---------------------------------|-----------------------------------|-------------------------------------------|----------------------------------|
| <b>Johnston</b>  | <b>1/7</b>                 | <b>1</b>    | <b>128</b>                      | <b>245</b>                        | <b>11514</b>                              | <b>6.22</b>                      |
|                  |                            | <b>2</b>    | <b>121</b>                      | <b>231</b>                        | <b>11825</b>                              | <b>6.03</b>                      |
|                  |                            | <b>3</b>    | <b>135</b>                      | <b>258</b>                        | <b>11858</b>                              | <b>6.75</b>                      |
|                  | <b>3 Test AVG -</b>        |             |                                 |                                   |                                           | <b>6.33</b>                      |
|                  | <b>WDNR Permit Limit -</b> |             |                                 |                                   |                                           | <b>7.4</b>                       |
| <b>Cl-Brooks</b> | <b>1/20</b>                | <b>1</b>    | <b>76.5</b>                     | <b>146</b>                        | <b>31409</b>                              | <b>10.13</b>                     |
|                  |                            | <b>2</b>    | <b>87.5</b>                     | <b>167</b>                        | <b>30587</b>                              | <b>11.29</b>                     |
|                  |                            | <b>3</b>    | <b>85.0</b>                     | <b>163</b>                        | <b>31855</b>                              | <b>11.42</b>                     |
|                  | <b>3 Test AVG -</b>        |             |                                 |                                   |                                           | <b>10.95</b>                     |
|                  | <b>WDNR Permit Limit -</b> |             |                                 |                                   |                                           | <b>14.7</b>                      |

**Notes:**

NOx Conc. (mg/m3) = NOx Conc. (ppm) x (46.01/24.05)  
Emission Rate = Conc.(mg/m3) x Exhaust Flow(mg/m3) x (1 lb/453600 mg)

**CARBON MONOXIDE TEST RESULTS  
JOHNSTON & CLEAVER BROOKS BOILER EXHAUSTS  
ANAMAX CORP - GREEN BAY  
JANUARY 7 & 20, 2005**

**TABLE 2-8**

| Stack     | Test Date           | Test | Measured CO Level (ppm) | Measured CO Level (mg/m3) | Standard Exhaust Flow Rate (m3/hr) | CO Emission Rate (lb/hr) |
|-----------|---------------------|------|-------------------------|---------------------------|------------------------------------|--------------------------|
| Johnston  | 1/7                 | 1    | 12                      | 14                        | 11514                              | 0.35                     |
|           |                     | 2    | 12                      | 14                        | 11825                              | 0.36                     |
|           |                     | 3    | 11                      | 13                        | 11858                              | 0.33                     |
|           | 3 Test AVG -        |      |                         |                           |                                    | 0.35                     |
|           | WDNR Permit Limit - |      |                         |                           |                                    | 18.1                     |
| Cl-Brooks | 1/20                | 1    | 9                       | 10                        | 31409                              | 0.73                     |
|           |                     | 2    | 9                       | 10                        | 30587                              | 0.71                     |
|           |                     | 3    | 10                      | 12                        | 31855                              | 0.82                     |
|           | 3 Test AVG -        |      |                         |                           |                                    | 0.75                     |
|           | WDNR Permit Limit - |      |                         |                           |                                    | 36.1                     |

**Notes:**

NOx Conc. (mg/m3) = NOx Conc. (ppm) x (28.01/24.05)

Emission Rate = Conc.(mg/m3) x Exhaust Flow(mg/m3) x (1 lb/453600 mg)

**Fat as Fuel Project** 7/13/2015

|                         | <b>Moisture</b><br><u>%</u> | <b>BTU/lb</b><br><u>% as is</u> | <u>% dry</u> | <b>Sulfur</b><br><u>% as is</u> | <u>% dry</u> | <b>Ash</b><br><u>% as is</u> | <u>% dry</u> | <b>Insolubles</b><br><u>% as is</u> | <u>% dry</u> | <b>Acid Value - mg KOH/gm</b><br><u>as is</u> | <u>dry</u> |
|-------------------------|-----------------------------|---------------------------------|--------------|---------------------------------|--------------|------------------------------|--------------|-------------------------------------|--------------|-----------------------------------------------|------------|
| <b>Yellow Grease #1</b> | 0.44                        | 17128                           | 17204        | 0.05                            | 0.05         | 0.02                         | 0.02         | 0.14                                | 0.14         | 15.6                                          | 15.7       |
| <b>Beef Tallow</b>      | <0.05                       | 17247                           | 17247        | <0.05                           | <0.05        | 0.09                         | 0.09         | 0.28                                | 0.28         |                                               |            |
| <b>Poultry Fat</b>      | 0.08                        | 17240                           | 17254        | 0.08                            | 0.08         | 0.06                         | 0.06         | 0.28                                | 0.28         |                                               |            |
| <b>AV Blend - 70/30</b> | <0.05                       | 17206                           | 17206        | <0.05                           | <0.05        | 0.06                         | 0.06         | 0.26                                | 0.26         | 9.2                                           | 9.2        |
| <b>AV Blend - 50/50</b> | 0.12                        | 17205                           | 17226        | <0.05                           | <0.05        | 0.05                         | 0.05         | 0.22                                | 0.22         | 10.9                                          | 10.9       |
| <b>AV Blend - 30/70</b> | 0.51                        | 17150                           | 17238        | 0.05                            | 0.05         | 0.04                         | 0.04         | 0.18                                | 0.18         | 12.6                                          | 12.7       |
| <b>Yellow Grease #2</b> | 0.55                        | 17036                           | 17130        | <0.05                           | <0.05        | 0.02                         | 0.02         | 0.16                                | 0.16         |                                               |            |
| <b>Brown Grease</b>     | 0.62                        | 16966                           | 17072        | <0.05                           | <0.05        | 0.11                         | 0.11         | 0.47                                | 0.47         |                                               |            |