State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
50 West Town Street, Suite 700
Columbus, OH 43215

**TELE:** (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

06/27/07

**CERTIFIED MAIL**

**RE: Final Title V Significant Permit Modification Chapter 3745-77 permit**

06-60-01-0006
AK Steel - Zanesville Works
Cory Levengood
1724 Linden Avenue
Zanesville, OH 43701-2300

Dear Cory Levengood:

Enclosed is the Title V permit that allows you to operate the facility in the manner indicated in the permit. Because this permit may contain several conditions and restrictions, we urge you to read it carefully.

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of $70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

If you have any questions, please contact Southeast District Office.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

cc: Southeast District Office
File, DAPC PIER

State of Ohio Environmental Protection Agency

# FINAL TITLE V SIGNIFICANT PERMIT MODIFICATION

| Original Effective Date: 01/14/02 | Expiration Date: 12/24/07 | Modification Effective Date: 06/27/07 |
|---|---|---|

This document constitutes issuance of a Title V significant permit modification for Facility ID: 06-60-01-0006 to:
AK Steel - Zanesville Works
1724 Linden Avenue
Zanesville, OH 43701-2300

## Emissions Unit ID (Company ID)/Emissions Unit Activity Description

| | | |
|---|---|---|
| B001 (#1 Boiler)<br>Gas-fired Boiler - 52.5 MMBtu/hr | P001 (#4 HARD PICKLE)<br>#4 HARD PICKLE | P010 (#7 COIL COATING)<br>#7 COIL COATING |
| B002 (COAL-FIRED BOIL)<br>COAL-FIRED BOIL | P003 (#1 SENDZIMIR MI)<br>#1 SENDZIMIR MI | P011 (#15 COATING LINE)<br>#8 COATING LINE |
| B003 (COAL FIRED BOIL)<br>COAL FIRED BOIL | P006 (#6 STRIP ANNEAL)<br>#6 STRIP ANNEAL | P012 (#1 STRIP ANNEAL)<br>#1 STRIP ANNEAL |
| F001 (Plant Roadways & Parking Areas)<br>Plant Roadways & Parking Areas | P008 (#1 ANNEAL & PIC)<br>#1 ANNEAL & PIC | |
| F002 (Coal & Ash Storage Piles)<br>Storage Piles & Material Handling | P009 (#2 STRIP ANNEAL)<br>#2 STRIP ANNEAL | |

You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Described below is the current Ohio EPA District Office or local air agency that is responsible for processing and administering your Title V permit:

Southeast District Office
2195 Front Street
Logan, OH 43138
(740) 385-8501

Ohio Environmental Protection Agency

Chris Korleski
Director

## PART I - GENERAL TERMS AND CONDITIONS

### *A. State and Federally Enforceable Section*

### 1. Monitoring and Related Record Keeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Section A.III of Part III of this Title V permit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.

ii. The date(s) analyses were performed.

iii. The company or entity that performed the analyses.

iv. The analytical techniques or methods used.

v. The results of such analyses.

vi. The operating conditions existing at the time of sampling or measurement.
*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))*

b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))*

c. The permittee shall submit required reports in the following manner:

i. **All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:**

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year in accordance with General Term and Condition A.1.c.ii below; and each report shall cover the previous calendar quarter (An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c)).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) constitutes a violation of an emission limitation (or control requirement) and, therefore, is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported

only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any scheduled maintenance, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.
*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

ii. **Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Section A.IV of Part III of this Title V permit or, in some cases, in Part II of this Title V permit, all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:**

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as provided below, the written reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this General Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this General Term and Condition.

See B.6 below if no deviations occurred during the quarter.
*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

iii. **All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with General Term and Condition A.1.c.ii above shall be submitted in the following manner:**

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; General Terms and Conditions: A.2, A.3, A.4, A.6.e, A.7, A.12, A.14, A.18, A.19, A.20, and A.22 of Part I of this Title V permit, as well as any deviations from the requirements in Section A.V or A.VI of Part III of this Title V permit**,** and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with General Term and Condition A.1.c.ii above shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this

permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable requirements not specifically addressed by permit or rule for the insignificant activities or emissions levels (IEU) identified in Part II.A of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with General Term and Condition A.1.c.ii above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.
*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))*

iv. Each written report shall be signed by a responsible official certifying that, "based on information and belief formed after reasonable inquiry, the statements and information in the report (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."
*(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))*

v. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

**2. Scheduled Maintenance**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in General Term and Condition A.1.c.i above.
*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

**3. Risk Management Plans**

If applicable, the permittee shall develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq. (“Act”); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

a. a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or

b. as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

*(Authority for term: OAC rule 3745-77-07(A)(4))*

**4. Title IV Provisions**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
*(Authority for term: OAC rule 3745-77-07(A)(5))*

**5. Severability Clause**

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
*(Authority for term: OAC rule 3745-77-07(A)(6))*

**6. General Requirements**

a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.

b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.10 below. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d. This permit does not convey any property rights of any sort, or any exclusive privilege.

e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

f. Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable upon final issuance of all applicable OAC Chapter 3745-35 operating permits and/or registrations for all subject emissions units located at the facility and:

i. the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a “major source” as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or

ii. the permittee no longer meets the definition of a “major source” as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or

iii. a combination of i. and ii. above.

The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.
*(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))*

**7. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.
*(Authority for term: OAC rule 3745-77-07(A)(8))*

**8. Marketable Permit Programs**

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.
*(Authority for term: OAC rule 3745-77-07(A)(9))*

**9. Reasonably Anticipated Operating Scenarios**

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.
*(Authority for term: OAC rule 3745-77-07(A)(10))*

**10. Reopening for Cause**

This Title V permit will be reopened prior to its expiration date under the following conditions:

a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

*(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))*

**11. Federal and State Enforceability**

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.
*(Authority for term: OAC rule 3745-77-07(B))*

**12. Compliance Requirements**

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.

iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted (i.e., postmarked) on or before April 30th of each year during the permit term.

ii. Compliance certifications shall include the following:

(a) An identification of each term or condition of this permit that is the basis of the certification.

(b) The permittee's current compliance status.

(c) Whether compliance was continuous or intermittent.

(d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.

(e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.

iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

*(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))*

**13. Permit Shield**

a. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b. This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

*(Authority for term: OAC rule 3745-77-07(F))*

**14. Operational Flexibility**

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed

under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).
*(Authority for term: OAC rules 3745-77-07(H)(1) and (2))*

**15. Emergencies**

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.
*(Authority for term: OAC rule 3745-77-07(G))*

**16. Off-Permit Changes**

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a. The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b. The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d. The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit to install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.
*(Authority for term: OAC rule 3745-77-07(I))*

**17. Compliance Method Requirements**

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.
*(This term is provided for informational purposes only.)*

**18. Insignificant Activities or Emissions Levels**

Each IEU that has one or more applicable requirements shall comply with those applicable requirements.
*(Authority for term: OAC rule 3745-77-07(A)(1))*

**19. Permit to Install Requirement**

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.
*(Authority for term: OAC rule 3745-77-07(A)(1))*

**20. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.
*(Authority for term: OAC rule 3745-77-07(A)(1))*

**21. Permanent Shutdown of an Emissions Unit**

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the responsible official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the responsible official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

No emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.
*(Authority for term: OAC rule 3745-77-01)*

**22. Title VI Provisions**

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

*(Authority for term: OAC rule 3745-77-01(H)(11))*

**B.** ***State Only Enforceable Section***

**1. Reporting Requirements Related to Monitoring and Record Keeping Requirements**

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**2. Records Retention Requirements**

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

**3. Inspections and Information Requests**

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**4. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

**5. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

**6. Additional Reporting Requirements When There Are No Deviations of <u>Federally Enforceable</u> Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)**

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

a. where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in General Term and Condition A.1.c.ii; or

b. where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potentials to emit; or

c. where the company's responsible official has certified that an emissions unit has been permanently shut down.

# Part II - Specific Facility Terms and Conditions

## A. State and Federally Enforceable Section

**1.** The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters as specified in Attachment 1 of this permit.

**2.** The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart SSSS - National Emission Standards for Hazardous Air Pollutants for Surface Coating of Metal Coil as specified in Attachment 2 of this permit.

## B. State Only Enforceable Section

**1.** The following insignificant emissions units are located at this facility:

B005 - 5 mmBtu/hr air make-up unit;
B006 - 5 mmBtu/hr air make-up unit;
T019 - 7500-gallon hydroflouric acid storage tank;
Z001 - <10 sq. ft. surface area solvent degreasers;
Z002 - 5 mmBtu/hr air make-up unit;
Z003 - 5 mmBtu/hr air make-up unit;
Z004 - 5 mmBtu/hr air make-up unit;
Z005 - gasoline dispensing & storage tank;
Z006 - machine shop bearing cleaning unit;
Z007 - 5000-gallon no. 4 hard pickle monoaluminum phosphate tank;
Z008 - 25000-gallon no. 4 hard pickle used H2SO4/HF/HCl tank;
Z009 - 10000-gallon no. 4 hard pickle H2SO4 tank;
Z010 - 30000-gallon Z-mill waste oil tank;
Z011 - 10000-gallon Z-mill bulk oil tank;
Z012 - 25000-gallon no. 1 anneal & pickle urea tank;
Z013 - 15000-gallon no. 1 anneal & pickle HNO3 tank;
Z014 - 30000-gallon no. 1 anneal & pickle H2SO4/HF tank;
Z015 - 40000-gallon no. 1 anneal & pickle used HNO3/HF tank;
Z016 - 10000-gallon no. 1 anneal & pickle koliquid tank;
Z017 - 5000-gallon coaters monoaluminum phosphate tank;
Z018 - 12000-gallon coaters C-3 coreplate tank;
Z019 - 8000-gallon WWTP caustic soda tank;
Z020 - 9500-gallon reclaimed oil tank;
Z021 - 6700-gallon oily sludge tank;
Z022 - small gasoline and diesel dispensing facility; and
Z099 - miscellaneous natural gas combustion.

Each insignificant emissions unit at this facility must comply with all applicable State and federal regulations, as well as any emission limitations and/or control requirements contained within a permit to install for the emissions unit.

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** #1 Boiler (B001)

**Activity Description:** Gas-fired Boiler - 52.5 MMBtu/hr

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| 52.5 mmBtu/hr natural gas-fired boiler | OAC rule 3745-17-10 | Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input. |
| | OAC rule 3745-17-07(A) | Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. |
| | OAC rule 3745-18-06(A) | See A.I.2.a below. |
| | 40 CFR Part 63, Subpart A | See Table 10 of 40 CFR Part 63, Subpart DDDDD in Attachment 1 for the applicable requirements of this rule. |
| | 40 CFR Part 63, Subpart DDDDD | See Part II - Specific Facility Term and Condition A.1 and Attachment 1 of this permit for the applicable requirements.<br><br>Should Subpart DDDDD be revised during the term of this permit, the permittee shall comply with the applicable requirements of the most recent promulgation.<br><br>The permittee shall comply with the applicable requirements of this rule by the date specified below.<br><br>The compliance date for this rule is September 13, 2007 unless the deadline is changed by USEPA. |

**2. Additional Terms and Conditions**

**2.a** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for the fuel burning equipment associated with this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

## II. Operational Restrictions

**1.** The permittee shall burn only natural gas as fuel in this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance with the visible emission limit shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996. No visible emission testing is specifically required by this permit, but, if appropriate, it may be requested pursuant to OAC rule 3745-15-04(A).

**1.b** Emission Limitation:

0.020 pound of particulate emissions per mmBtu of actual heat input

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** COAL-FIRED BOIL (B002)

**Activity Description:** COAL-FIRED BOIL

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| 35.4 mmBtu/hr Babcock & Wilcox coal-fired boiler vented to a mechanical collector | OAC rule 3745-17-10 | Particulate emissions shall not exceed 0.22 pound per mmBtu of actual heat input. |
| | OAC rule 3745-18-66(C) | Emissions of sulfur dioxide (SO2) from this emissions unit shall not exceed 6.1 pounds per mmBtu of actual heat input. |
| | OAC rule 3745-17-07(C) | See A.I.2.a below. |
| | 40 CFR Part 63, Subpart A | See Table 10 of 40 CFR Part 63, Subpart DDDDD in Attachment 1 for the applicable requirements of this rule. |
| | 40 CFR Part 63, Subpart DDDDD | See Part II - Specific Facility Term and Condition A.1 and Attachment 1 of this permit for the applicable requirements.<br><br>Should Subpart DDDDD be revised during the term of this permit, the permittee shall comply with the applicable requirements of the most recent promulgation.<br><br>The permittee shall comply with the applicable requirements of this rule by the date specified below.<br><br>The compliance date for this rule is September 13, 2007 unless the deadline is changed by USEPA. |

**2. Additional Terms and Conditions**

**2.a** Pursuant to the provisions of paragraph (C) of OAC rule 3745-17-07, and as approved by the USEPA on 2/19/88, this facility is hereby granted the following equivalent visible emission limitation for this emissions unit in lieu of the visible emission limitation required under paragraph (A) of said rule:

This facility shall not cause or allow the discharge into the ambient air from any stack associated with this emissions unit any air contaminant of a shade or density greater than 35% opacity, but shall not exceed 60% opacity, as a 6-minute average, at any time.

## II. Operational Restrictions

**None**

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall determine compliance with the allowable SO2 emission limitation by either monthly composite sampling or monthly average fuel analysis in accordance with the procedures specified below.

If the permittee chooses to perform monthly composite sampling, the composite sample shall be composed of either periodic as-fired samples, with the collection frequency determined by the Director, or as-received samples with a minimum of one sample per truckload or carload. Compliance with the applicable SO2 emission limit shall be determined based on the analysis of each monthly composite sample.

If the permittee chooses the monthly average fuel analysis approach, the monthly average fuel analysis shall be based on fuel supplier analyses. Fuel supplier analyses shall be obtained for each shipment received during the calendar month. Compliance with the applicable SO2 emission limit shall be determined based on the weighted arithmetic average of all fuel supplier analyses for each calendar month.

The permittee shall perform or require the supplier to perform the coal sampling in accordance with ASTM method D2234, Collection of a Gross Sample of Coal and analyze the coal sample for ash content (percent), sulfur content (percent), and heat content (Btu/pound of coal). The analytical methods for ash content, sulfur content, and heat content shall be: ASTM method D3174, Ash in the Analysis of Coal and Coke; ASTM method D3177, Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; and ASTM method D2015, Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, ASTM method D3286, Gross Calorific Value of Coal and Coke by the Isothermal Bomb Calorimeter, or ASTM method D1989, Standard Test Method for Gross Calorific Value of Coal and Coke by Microprocessor Controlled Isoperibol Calorimeters, respectively. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

**2.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to minimize or eliminate the abnormal visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

## IV. Reporting Requirements

**1.** The permittee shall submit, on a quarterly basis, copies of the permittee's monthly composite sample analyses or the fuel supplier's analyses (wet and/or dry) for each shipment of coal which is received for burning in this emissions unit. The permittee or coal supplier's analyses shall document the ash content (percent), sulfur content (percent), and heat content (Btu/pound) using either of the sampling methods noted in section A.III.1.

The following information shall also be included with the copies of the permittee's or coal supplier's analyses:

a. the total quantity of coal received in each shipment (tons);

b. the weighted* average ash content (percent) of the coal received during each calendar month;

c. the weighted* average sulfur content (percent) of the coal received during each calendar month;

d. the weighted* average heat content (Btu/pound) of the coal received during each calendar month; and

e. the weighted* average sulfur dioxide emissions rate (pounds sulfur dioxide/mmBtu actual heat input) from the coal received each calendar month.

* in proportion to the quantity of coal received in each shipment during the calendar month

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the coal shipments received during the previous calendar quarters.

**2.** The permittee shall submit semiannual written reports that (a) identify all days during which any abnormal visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the abnormal visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

## V. Testing Requirements

**1.** Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation:

0.22 pound of particulates per mmBtu of actual heat input

Applicable Compliance Method:

Compliance shall be demonstrated based upon the stack testing requirements specified in section A.V.2.

**1.b** Emission Limitation:

6.1 pounds of $SO_2$ per mmBtu of actual heat input

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.1.

## V. Testing Requirements (continued)

**1.c** Emission Limitation:

35% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996. In accordance with OAC rule 3745-17-07(C), a new EVEL must be established each time a particulate emissions stack test is performed.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 6 months after issuance of the permit and annually thereafter until permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulates.

c. The permittee shall perform visible particulate observations in accordance with 40 CFR Part 60, Appendix A, Method 9 during each particulate test run.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

e. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** COAL FIRED BOIL (B003)

**Activity Description:** COAL FIRED BOIL

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| 35.4 mmBtu/hr Babcock & Wilcox coal-fired boiler vented to a mechanical collector | OAC rule 3745-17-10 | Particulate emissions shall not exceed 0.22 pound per mmBtu of actual heat input. |
| | OAC rule 3745-18-66(C) | Emissions of sulfur dioxide (SO2) from this emissions unit shall not exceed 6.1 pounds per mmBtu of actual heat input. |
| | OAC rule 3745-17-07(C) | See A.I.2.a below. |
| | 40 CFR Part 63, Subpart A | See Table 10 of 40 CFR Part 63, Subpart DDDDD in Attachment 1 for the applicable requirements of this rule. |
| | 40 CFR Part 63, Subpart DDDDD | See Part II - Specific Facility Term and Condition A.1 and Attachment 1 of this permit for the applicable requirements.<br><br>Should Subpart DDDDD be revised during the term of this permit, the permittee shall comply with the applicable requirements of the most recent promulgation.<br><br>The permittee shall comply with the applicable requirements of this rule by the date specified below.<br><br>The compliance date for this rule is September 13, 2007 unless the deadline is changed by USEPA. |

**2. Additional Terms and Conditions**

**2.a** Pursuant to the provisions of paragraph (C) of OAC rule 3745-17-07, and as approved by the USEPA on 2/19/88, this facility is hereby granted the following equivalent visible emission limitation for this emissions unit in lieu of the visible emission limitation required under paragraph (A) of said rule:

This facility shall not cause or allow the discharge into the ambient air from any stack associated with this emissions unit any air contaminant of a shade or density greater than 35% opacity, but shall not exceed 60% opacity, as a 6-minute average, at any time.

## II. Operational Restrictions

**None**

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall determine compliance with the allowable SO2 emission limitation by either monthly composite sampling or monthly average fuel analysis in accordance with the procedures specified below.

If the permittee chooses to perform monthly composite sampling, the composite sample shall be composed of either periodic as-fired samples, with the collection frequency determined by the Director, or as-received samples with a minimum of one sample per truckload or carload. Compliance with the applicable SO2 emission limit shall be determined based on the analysis of each monthly composite sample.

If the permittee chooses the monthly average fuel analysis approach, the monthly average fuel analysis shall be based on fuel supplier analyses. Fuel supplier analyses shall be obtained for each shipment received during the calendar month. Compliance with the applicable SO2 emission limit shall be determined based on the weighted arithmetic average of all fuel supplier analyses for each calendar month.

The permittee shall perform or require the supplier to perform the coal sampling in accordance with ASTM method D2234, Collection of a Gross Sample of Coal and analyze the coal sample for ash content (percent), sulfur content (percent), and heat content (Btu/pound of coal). The analytical methods for ash content, sulfur content, and heat content shall be: ASTM method D3174, Ash in the Analysis of Coal and Coke; ASTM method D3177, Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; and ASTM method D2015, Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, ASTM method D3286, Gross Calorific Value of Coal and Coke by the Isothermal Bomb Calorimeter, or ASTM method D1989, Standard Test Method for Gross Calorific Value of Coal and Coke by Microprocessor Controlled Isoperibol Calorimeters, respectively. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

**2.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to minimize or eliminate the abnormal visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

## IV. Reporting Requirements

**1.** The permittee shall submit, on a quarterly basis, copies of the permittee's monthly composite sample analyses or the fuel supplier's analyses (wet and/or dry) for each shipment of coal which is received for burning in this emissions unit. The permittee or coal supplier's analyses shall document the ash content (percent), sulfur content (percent), and heat content (Btu/pound) using either of the sampling methods noted in section A.III.1.

The following information shall also be included with the copies of the permittee's or coal supplier's analyses:

a. the total quantity of coal received in each shipment (tons);

b. the weighted* average ash content (percent) of the coal received during each calendar month;

c. the weighted* average sulfur content (percent) of the coal received during each calendar month;

d. the weighted* average heat content (Btu/pound) of the coal received during each calendar month; and

e. the weighted* average sulfur dioxide emissions rate (pounds sulfur dioxide/mmBtu actual heat input) from the coal received each calendar month.

* in proportion to the quantity of coal received in each shipment during the calendar month

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the coal shipments received during the previous calendar quarters.

**2.** The permittee shall submit semiannual written reports that (a) identify all days during which any abnormal visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the abnormal visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

## V. Testing Requirements

**1.** Compliance with the emission limitations and the operational restriction in sections A.I.1 and A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation:

0.22 pound of particulates per mmBtu of actual heat input

Applicable Compliance Method:

Compliance shall be demonstrated based upon the stack testing requirements specified in section A.V.2.

**1.b** Emission Limitation:

6.1 pounds of $SO_2$ per mmBtu of actual heat input

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.1.

## V. Testing Requirements (continued)

**1.c** Emission Limitation:

35% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996. In accordance with OAC rule 3745-17-07(C), a new EVEL must be established each time a particulate emissions stack test is performed.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 6 months after issuance of the permit and annually thereafter until permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulates.

c. The permittee shall perform visible particulate observations in accordance with 40 CFR Part 60, Appendix A, Method 9 during each particulate test run.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

e. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Plant Roadways & Parking Areas (F001)

**Activity Description:** Plant Roadways & Parking Areas

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| paved roadways and parking areas | OAC rule 3745-17-07(B)(4) | no visible particulate emissions except for 6 minutes during any 60-minute period |
| | OAC rule 3745-17-08(B), (B)(8), (B)(9) | reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see sections A.I.2.b through A.I.2.f) |
| unpaved roadways and parking areas | OAC rule 3745-17-07(B)(5) | no visible particulate emissions except for 13 minutes during any 60-minute period |
| | OAC rule 3745-17-08(B), (B)(2) | reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see sections A.I.2.h through A.I.2.k) |

**2. Additional Terms and Conditions**

**2.a** The paved roadways and parking areas that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:

paved roadways:

P1 - plant main road

P2 - paved road to engineering and stores

paved parking area:

P3 - employee parking to main gate

## 2. Additional Terms and Conditions (continued)

**2.b** The permittee shall employ reasonably available control measures on all paved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the paved roadways and parking areas by sweeping and vacuuming at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.c** The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for a paved roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

**2.d** The unpaved roadways and parking areas that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:

unpaved roadways:

U1 - gravel spur to #4 HP/waste water treatment delivery

U2 - miscellaneous roadway for construction purposes

unpaved parking areas:

U3 - miscellaneous parking area for construction purposes

**2.e** The permittee shall employ reasonably available control measures on all unpaved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved roadways and parking areas with suitable dust suppressant at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.f** The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for an unpaved roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

**2.g** Any unpaved roadway or parking area, which during the term of this permit is paved or takes the characteristics of a paved surface due to the application of certain types of dust suppressants, may be controlled using appropriate dust control measures for paved surfaces. Any unpaved roadway or parking area that takes the characteristics of a paved roadway or parking area due to the application of certain types of dust suppressants shall remain subject to the visible emission limitation for unpaved roadways and parking areas. Any unpaved roadway or parking area that is paved shall be subject to the visible emission limitation for paved roadways and parking areas specified in OAC rule 3745-17-07(B)(4).

**2.h** The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.

**2.i** Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.

**2.j** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08.

## II. Operational Restrictions

**None**

## III. Monitoring and/or Record Keeping Requirements

**1.** Except as otherwise provided in this section, the permittee shall perform inspections of each of the paved roadways and the parking area in accordance with the following frequencies:

| paved roadways | minimum inspection frequency |
|---|---|
| all | weekly |

| paved parking area | minimum inspection frequency |
|---|---|
| P2 | weekly |

**2.** Except as otherwise provided in this section, the permittee shall perform inspections of each of the unpaved roadways and the parking area in accordance with the following frequencies:

| unpaved roadways | minimum inspection frequency |
|---|---|
| all | weekly |

| unpaved parking areas | minimum inspection frequency |
|---|---|
| U4 | weekly |

**3.** The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

**4.** The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned frequencies for performing the inspections if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

**5.** The permittee shall maintain records of the following information:

a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;

b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;

c. the dates the control measures were implemented; and

d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in section A.III.5.d shall be kept separately for (i) the paved roadways and parking areas and (ii) the unpaved roadways and parking areas, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation reports that identify any of the following occurrences:

a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and

b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

**2.** The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.

## V. Testing Requirements

**1.** Emission Limitation:

no visible particulate emissions

Applicable Compliance Method:

Compliance with the emission limitation for the unpaved and paved roadways and parking areas identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources," as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Coal & Ash Storage Piles (F002)

**Activity Description:** Storage Piles & Material Handling

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| storage piles and material handling load-in and load-out of storage piles (see section A.2.a for identification of storage piles) | OAC rule 3745-17-07 | no visible emissions except for 13 minutes in any hour |
| | OAC rule 3745-17-08 | reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see sections A.I.2.b, A.I.2.c and A.I.2.f) |
| storage piles and material handling wind erosion from storage piles (see section A.2.a for identification of storage piles) | OAC rule 3745-17-07(B)(6) | no visible emissions except for 13 minutes in any hour |
| | OAC rule 3745-17-08(B), (B)(6) | reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see sections A.I.2.d through A.I.2.f) |

**2. Additional Terms and Conditions**

**2.a** The storage piles that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:

coal storage pile #1
ash storage pile #1

**2.b** The permittee shall employ reasonably available control measures on all load-in and load-out operations associated with the storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. To ensure compliance, the permittee shall minimize drop height and maintain good operating practices. Nothing in this paragraph shall prohibit the permittee from employing other control measures, including the use of water and/or other dust suppressants, to ensure compliance.

**2.c** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08.

## II. Operational Restrictions

**None**

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. the total duration of any visible emission incident; and
c. any corrective actions taken to eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit).

## IV. Reporting Requirements

**1.** The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

## V. Testing Requirements

**1.** Emission Limitation:

no visible particulate emissions except for 13 minutes in any hour

Acceptable Compliance Method:

Compliance with the visible emission limitations for the storage piles identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(c) of OAC rule 3745-17-03.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** #4 HARD PICKLE (P001)

**Activity Description:** #4 HARD PICKLE

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| #4 hard pickle line controlled with a wet scrubber | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 28.4 lbs/hr from the #4 hard pickle line, MgO payoff reel section, and acid pickling section, combined. |
| | OAC rule 3745-17-07(A) | Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. |

**2. Additional Terms and Conditions**

**2.a** If the emissions testing required for this emissions unit demonstrates that the allowable emissions rate from Figure II is more stringent than 28.4 lbs/hour, the permittee shall comply with the more stringent limitation.

**2.b** The wet scrubber serving the pickle tub shall be in operation at all times this emissions unit is in operation.

### II. Operational Restrictions

**None**

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

**2.** The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less frequent visible emissions checks would be sufficient to ensure compliance with the above-mentioned applicable requirements.

## IV. Reporting Requirements

**1.** The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation:

28.4 lbs/hr of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated based upon the stack testing requirements specified in section A.V.2.

**1.b** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance with the visible emission limit shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996. No visible emission testing is specifically required by this permit, but, if appropriate, it may be requested pursuant to OAC rule 3745-15-04 (A).

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 6 months after issuance of the permit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulates. Emission tests also shall be performed at the inlet of the control device for purposes of determining the uncontrolled mass rate of emissions (UMRE) and the allowable emission rate from Figure II of OAC rule 3745-17-11.

c. The following test methods shall be employed for the UMRE and to demonstrate compliance with the allowable mass emission rate: for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The permittee shall perform visible particulate observations in accordance with 40 CFR Part 60, Appendix A, Method 9 during each particulate test run.

e. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** #1 SENDZIMIR MI (P003)

**Activity Description:** #1 SENDZIMIR MI

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| #1 Sendzimir mill vented to a cyclone | OAC rule 3745-17-11 | Particulate emissions shall not exceed 40 lbs/hr. |
| | OAC rule 3745-17-07 | Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. |

**2. Additional Terms and Conditions**

**2.a** If the emissions testing required for this emissions unit demonstrates that the allowable emissions rate from Figure II is more stringent than 40 lbs/hour, the permittee shall comply with the more stringent limitation.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less frequent visible emissions checks would be sufficient to ensure compliance with the above-mentioned applicable requirements.

## IV. Reporting Requirements

**1.** The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation:

40.0 lbs/hr of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated based upon the stack testing requirements specified in section A.V.2.

**1.b** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance with the visible emission limit shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996. No visible emission testing is specifically required by this permit, but, if appropriate, it may be requested pursuant to OAC rule 3745-15-04 (A).

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 6 months after issuance of the permit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulates. Emission tests also shall be performed at the inlet of the control device for purposes of determining the uncontrolled mass rate of emissions (UMRE) and the allowable emission rate from Figure II of OAC rule 3745-17-11. The inlet emission testing may be waived by the Southeast District Office if the permittee demonstrates to the satisfaction of the Southeast District Office that it is not technically feasible to perform the emission testing and that there are no available, accurate emission factors for this emissions unit, including emission factors that would be based upon test results from AK Steel's Coshocton facility.

c. The following test methods shall be employed for the UMRE and to demonstrate compliance with the allowable mass emission rate: for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The permittee shall perform visible particulate observations in accordance with 40 CFR Part 60, Appendix A, Method 9 during each particulate test run.

e. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

f. Should the uncontrolled emission rate be greater than 10 lbs/hr, the permittee shall conduct an emission test to demonstrate compliance with the allowable mass emission rate for particulates specified in section A.I.1 using the procedures in sections A.V.2.c and A.V.2.d.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** #6 STRIP ANNEAL (P006)

**Activity Description:** #6 STRIP ANNEAL

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| #6 strip anneal line | OAC rule 3745-17-11 | none<br>See A.I.2.a below. |
| | OAC rule 3745-17-07 | none<br>See A.I.2.b below. |
| | OAC rule 3745-18-06(E)(2) | 132 lbs/hr of sulfur dioxide (SO2)<br>See A.I.2.c below. |

**2. Additional Terms and Conditions**

**2.a** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.

**2.b** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

**2.c** No monitoring, record keeping, or reporting is necessary because the only source of SO2 emissions is from the combustion of natural gas and the SO2 emissions from the combustion of natural gas is considered negligible.

### II. Operational Restrictions

**1.** The permittee shall burn only natural gas as fuel in this emissions unit.

### III. Monitoring and/or Record Keeping Requirements

**1.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

### IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** #1 ANNEAL & PIC (P008)

**Activity Description:** #1 ANNEAL & PIC

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| no. 1 annealing and pickling line vented to 2 packed tower wet scrubbers | OAC rule 3745-31-05 (PTI 06-04694) | 0.80 lb/hr of particulate emissions<br>3.51 tpy of particulate emissions<br><br>0.07 lb/hr of sulfur dioxide (SO2)<br>0.31 tpy of SO2<br><br>0.65 lb/hr of volatile organic compounds (VOC)<br>2.85 tpy of VOC<br><br>58.99 lbs/hr of nitrogen oxides (NOx)<br>258 tpy of NOx<br><br>9.91 lbs/hr of carbon monoxide (CO)<br>43.41 tpy of CO<br><br>0.143 lb/hr of hydrogen fluoride (HF)<br>0.63 tpy of HF<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).<br><br>See A.I.2.a below. |
| | OAC rule 3745-17-11 | See A.I.2.b below. |
| | OAC rule 3745-17-07(A) | Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. |
| | OAC rule 3745-18-06(E)(2) | See A.I.2.b below. |
| | OAC rule 3745-21-08(B) | See A.I.2.c below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall employ low NOx burners, the addition of urea to pickling baths, and a packed bed scrubber to reduce NOx emissions whenever this emissions unit is in operation.

**2.b** The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

## II. Operational Restrictions

**1.** For the acid fume scrubber (Heil Process Co.), the pressure drop across the scrubber shall be continuously maintained at a value of not less than 2 inches of water while the emissions unit is in operation.

**2.** For the kolene scrubber (Enviroclear), the pressure drop across the scrubber shall be continuously maintained at a value of not less than 1 inch of water while the emissions unit is in operation.

**3.** The permittee shall maintain the urea feed rate for each product type produced in this emissions unit at an hourly rate that is not less than the urea feed rate established during the most recent emission tests that demonstrated this emissions unit was in compliance with the hourly allowable NOx emission limitation of 58.99 lbs/hr.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across each scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

**2.** The permittee shall collect and record the following information each day:

a. the pressure drop across each scrubber, in inches of water; and

b. the downtimes for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**3.** The permittee shall maintain monthly records of the following information:

a. the production rate, in tons;

b. the average hourly production rate, in tons/hour;

c. the total amount of natural gas employed by the emissions unit, in mmcf; and

d. the average hourly natural gas usage, calculated as follows:

mmcf/hr = the total amount of natural gas employed, in mmcf / the total hours of operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall maintain records of the following information for each run of each product type produced in this emissions unit:

a. the total amount of urea employed, in gallons;

b. the hours of operation for the product type run; and

c. the average hourly urea feed rate, in gallons/hour.

**5.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the static pressure drop across each scrubber was not maintained at or above the required level.

**2.** The permittee shall submit quarterly deviation (excursion) reports that identify any urea feed rate that did not comply with the operational restriction specified in section A.II.3.

**3.** The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.

**4.** The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emission Limitation:

0.80 lb/hr of particulate emissions

Applicable Compliance Method:

Compliance may be determined using the following calculation method, where total particulate emissions equal the summation of emissions from the natural gas annealing furnace and the pickling and kolene process:

i. Annealing furnace particulate emissions are calculated by multiplying the emission factor from AP-42, Table 1.4-2, 7/98 (1.9 lbs/mmcf) by the annealing furnace maximum fuel usage (0.118 mmcf/hr).

ii. Pickling and kolene particulate emissions are calculated by multiplying the stack test-derived emission factor of 0.02 lb PE/ton metal (submitted by the permittee in PTI 06-04694 application) by the maximum process weight rate of P008 (28.7 ton metal/hr).

iii. Total allowable emissions = 0.23 lb/hr + 0.57 lb/hr = 0.8 lb PE/hr

If required, compliance shall be determined in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

**1.b** Emission Limitation:

3.51 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

**1.c** Emission Limitation:

0.07 lb/hr of SO2

Applicable Compliance Method:

Compliance may be determined by multiplying the emission factor from AP-42, Table 1.4-2, 7/98 (0.6 lb SO2/mmcf) by the annealing furnace maximum fuel usage (0.118 mmcf/hr).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

**1.d** Emission Limitation:

0.31 tpy of SO2

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

## V. Testing Requirements (continued)

**1.e** Emission Limitation:

0.65 lb/hr of VOC

Applicable Compliance Method:

Compliance may be determined by multiplying the emission factor from AP-42, Table 1.4-2, 7/98 (5.5 lbs VOC/mmcf) by the annealing furnace maximum fuel usage (0.118 mmcf/hr).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25.

**1.f** Emission Limitation:

2.85 tpy of VOC

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

**1.g** Emission Limitation:

58.99 lbs/hr of NOx

Applicable Compliance Method:

Compliance shall be demonstrated based upon the stack testing requirements specified in section A.V.2.

**1.h** Emission Limitation:

258 tpy of NOx

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

**1.i** Emission Limitation:

9.91 lbs/hr of CO

Applicable Compliance Method:

Compliance may be determined by multiplying the emission factor from AP-42, Table 1.4-1, 7/98 (84 lbs CO/mmcf) by the annealing furnace maximum fuel usage (0.118 mmcf/hr).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

**1.j** Emission Limitation:

43.41 tpy of CO

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

## V. Testing Requirements (continued)

**1.k** Emission Limitation:

0.143 lb/hr of HF

Applicable Compliance Method:

Compliance with the above emission limit was last demonstrated by a stack test conducted by the facility on September 13, 1995, resulting in HF emissions of 0.143 lb/hr.

If required, compliance shall also be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 26A.

**1.l** Emission Limitation:

0.63 tpy of HF

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

**1.m** Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the procedures specified in Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996. No visible particulate emission testing is specifically required to demonstrate compliance with this limit but, if appropriate, may be requested pursuant to OAC rule 3745-15-04(A).

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 3 months after issuance of this permit and within 6 months prior to permit expiration.

b. The emission testing shall be conducted to establish the urea feed rate necessary to maintain compliance with the NOx emission limitation during the production of each type of product and to demonstrate compliance with the allowable mass emission rate for NOx.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for NOx, Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. The permittee shall record the total amount of urea employed and the average hourly urea feed rate during each emission test run for each type of product produced.

## V. Testing Requirements (continued)

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

**3.** As new product types are developed for production in this emissions unit, the permittee shall conduct emission tests for each new product type in accordance with the procedure specified in section A.V.2. Such emission tests shall be performed before routine production of the new product type begins.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** #2 STRIP ANNEAL (P009)

**Activity Description:** #2 STRIP ANNEAL

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| #2 strip anneal and coating line | OAC rule 3745-17-11 | none<br><br>See A.I.2.a below. |
| | OAC rule 3745-17-07 | none<br><br>See A.I.2.b below. |

**2. Additional Terms and Conditions**

**2.a** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.

**2.b** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** #7 COIL COATING (P010)

**Activity Description:** #7 COIL COATING

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| #7 coil coating & drying furnace line | OAC rule 3745-17-07(A) | See A.I.2.a below. |
| | OAC rule 3745-17-11 | See A.I.2.b below. |
| | OAC rule 3745-21-09(E) | use of a coating which does not exceed 2.6 pounds of VOC per gallon of coating, excluding water and exempt solvents (see A.I.2.c) |
| | 40 CFR Part 63, Subpart A | See Table 2 of 40 CFR Part 63, Subpart SSSS in Attachment 2 for the applicable requirements of this rule. |
| | 40 CFR Part 63, Subpart SSSS | See Part II - Specific Facility Term and Condition A.2 and Attachment 2 of this permit for the applicable requirements.<br><br>Should Subpart SSSS be revised during the term of this permit, the permittee shall comply with the applicable requirements of the most recent promulgation. |

**2. Additional Terms and Conditions**

**2.a** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

**2.b** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.

**2.c** The permittee is complying with this rule by ensuring that each coating employed complies with the VOC content limitation.

## II. Operational Restrictions

**None**

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each month for the line:

a. the name and identification number of each coating, as applied; and

b. the VOC content of each coating (excluding water and exempt solvents), as applied.

## IV. Reporting Requirements

**1.** The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing of any monthly record showing the use of noncomplying coatings. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days following the end of the calendar month.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation:

2.6 pounds of VOC per gallon of coating, excluding water and exempt solvents

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.1 of this permit. USEPA Method 24 shall be used to determine the VOC contents of the coatings.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** #15 COATING LINE (P011)

**Activity Description:** #8 COATING LINE

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| #15 coil coating & drying furnace line controlled with a baghouse | OAC rule 3745-31-05(A)(3) (PTI 06-06443) | The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B)(3).<br><br>Particulate emissions shall not exceed 0.025 grain per dry standard cubic foot (equivalent to 2.6 pounds per hour at maximum air flow rate) of exhaust gases or there shall be no visible particulate emissions, whichever is less stringent. Total particulate emissions from the baghouse shall not exceed 11.3 tons per year.<br><br>See A.I.2.g below. |
| | OAC rule 3745-17-07(A) | See A.I.2.a below. |
| | OAC rule 3745-17-11 | See A.I.2.b below. |
| | OAC rule 3745-21-09(E) | use of a coating which does not exceed 2.6 pounds of VOC per gallon of coating, excluding water and exempt solvents<br><br>See A.I.2.c below. |
| | OAC rule 3745-17-08(B)(3) | See A.I.2.d below. |
| | OAC rule 3745-17-07(B)(1) | The visible particulate emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average. |
| | OAC rule 3745-18-06(E)(2) | 110.73 lbs/hr of sulfur dioxide (SO2)<br><br>See A.I.2.e below. |
| | OAC rule 3745-21-08(B) | See A.I.2.f below. |

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | 40 CFR Part 63, Subpart A | See Table 2 of 40 CFR Part 63, Subpart SSSS in Attachment 2 for the applicable requirements of this rule. |
| | 40 CFR Part 63, Subpart SSSS | See Part II - Specific Facility Term and Condition A.2 and Attachment 2 of this permit for the applicable requirements.<br><br>Should Subpart SSSS be revised during the term of this permit, the permittee shall comply with the applicable requirements of the most recent promulgation. |

**2. Additional Terms and Conditions**

**2.a** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

**2.b** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.

**2.c** The permittee is complying with this rule by ensuring that each coating employed complies with the VOC content limitation.

**2.d** The permittee shall minimize or eliminate visible fugitive particulate emissions through the employment of reasonably available control measures (RACM). These measures shall include, but not be limited to, the following:

i. the installation and use of hoods, fan, and other equipment to adequately enclose, contain, capture, and vent the fugitive dust to the baghouse; and

ii. a collection efficiency that is sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design.

**2.e** No monitoring, record keeping, or reporting is necessary because the only source of SO2 emissions is from the combustion of natural gas and the SO2 emissions from the combustion of natural gas is considered negligible.

**2.f** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

**2. Additional Terms and Conditions (continued)**

**2.g** The coils employed on this coating line are covered with magnesium oxide to prevent rust from forming on the metal. When the coils are uncoiled, the magnesium oxide can be released into the air as fugitive dust. A vacuum system is employed with various pick-up points to vent the uncoiling area to a baghouse. The vacuum system and the baghouse shall be employed whenever a coil is uncoiled in preparation for coating in this emissions unit. Exhaust from the baghouse serving this emissions unit is currently vented into the building. This is the normal operating mode for this emissions unit.

## II. Operational Restrictions

**1.** The pressure drop across the baghouse shall be maintained within the range of 0.05 to 4.0 kPa of water while the emissions unit is in operation.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.

**2.** The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive particulate emissions shall be noted in an operations log. If visible fugitive particulate emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

**3.** The permittee shall maintain a monthly record of the hours of operation for this emissions unit.

**4.** The permittee shall collect and record the following information each month for the line:

a. the name and identification number of each coating, as applied; and

b. the VOC content of each coating (excluding water and exempt solvents), as applied.

## IV. Reporting Requirements

**1.** The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

**2.** The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c.

**3.** The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing of any monthly record showing the use of noncomplying coatings. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days following the end of the calendar month.

## IV. Reporting Requirements (continued)

**4.** The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the building egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation:

particulate matter emission limit of 0.025 grain per dry standard cubic foot

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing requirements specified in section A.V.2.

**1.b** Emission Limitation:

no visible emission limit for the exhaust from the dust collector

Applicable Compliance Method:

Compliance with the no visible emission limit for the exhaust from the dust collector shall be determined using Test Method 22-like visible emission observations. (Although Test Method 22 applies to fugitive emissions units, the visible/no visible emissions observation technique of Test Method 22 can be applied to ducted emissions, i.e., Test Method 22-like visible emission observations.)

**1.c** Emission Limitation:

9.4 tons per year of particulate emissions

Applicable Compliance Method:

Compliance with the particulate matter emission limit of 9.4 tons per year shall be determined in accordance with the following equation:

tons PM/year = (0.025 gr/dscf) X (10,000 dscf/min) X (lb/7000 gr) X (60 min/hour) X (ton/2000 lbs) X (actual hours of operation/year)

The flow rate of 10,000 dscf/min represents the maximum flow rate of exhaust gases from the control equipment, based on company data.

No testing or record keeping is specifically required to demonstrate compliance with this emission limitation, but, if appropriate, may be requested pursuant to OAC rule 3745-15-04(A).

**1.d** Emission Limitation:

20% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and OAC rule 3745-17-03(B)(3).

## V. Testing Requirements (continued)

**1.e** Emission Limitation:

use of a coating which does not exceed 2.6 pounds of VOC per gallon of coating, excluding water and exempt solvents

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirement specified in section A.III.4.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** #1 STRIP ANNEAL (P012)

**Activity Description:** #1 STRIP ANNEAL

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| #1 strip anneal line | OAC rule 3745-17-11 | none<br>See A.I.2.a below. |
| | OAC rule 3745-17-07 | none<br>See A.I.2.b below. |
| | OAC rule 3745-18-06(E)(2) | 118.2 lbs/hr of sulfur dioxide (SO2)<br>See A.I.2.c below. |

**2. Additional Terms and Conditions**

**2.a** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.

**2.b** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

**2.c** No monitoring, record keeping, or reporting is necessary because the only source of SO2 emissions is from the combustion of natural gas and the SO2 emissions from the combustion of natural gas is considered negligible.

### II. Operational Restrictions

**1.** The permittee shall burn only natural gas as fuel in this emissions unit.

### III. Monitoring and/or Record Keeping Requirements

**1.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

### IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

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## THIS IS THE LAST PAGE OF THE PERMIT

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Federal Register

Monday,
September 13, 2004

# Part II

# Environmental Protection Agency

## 40 CFR Part 63

## National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters; Final Rule

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 63**

**[OAR–2002–0058; FRL–7633–9]**

**RIN 2060–AG69**

## National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The EPA is promulgating national emission standards for hazardous air pollutants (NESHAP) for industrial, commercial, and institutional boilers and process heaters. The EPA has identified industrial, commercial, and institutional boilers and process heaters as major sources of hazardous air pollutants (HAP) emissions. The final rule will implement section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet HAP emissions standards reflecting the application of the maximum achievable control technology (MACT). The final rule is expected to reduce HAP emissions by 50,600 to 58,000 tons per year (tpy).

The HAP emitted by facilities in the boiler and process heater source category include arsenic, cadmium, chromium, hydrogen chloride (HCl), hydrogen fluoride, lead, manganese, mercury, nickel, and various organic HAP. Exposure to these substances has been demonstrated to cause adverse health effects such as irritation to the lung, skin, and mucus membranes, effects on the central nervous system, kidney damage, and cancer. These adverse health effects associated with the exposure to these specific HAP are further described in this preamble. In general, these findings only have been shown with concentrations higher than those typically in the ambient air.

The final rule contains numerous compliance provisions including health-based compliance alternatives for the hydrogen chloride and total selected metals emission limits.

**DATES:** The final rule is effective November 12, 2004. The incorporation by reference of certain publications listed in the final rule is approved by the Director of the Federal Register as of November 12, 2004.

**ADDRESSES:** The official public docket is the collection of materials that is available for public viewing at the Office of Air and Radiation Docket and Information Center (Air Docket) in the EPA Docket Center, Room B–102, 1301 Constitution Avenue, NW., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** For information concerning applicability and rule determinations, contact your State or local representative or appropriate EPA Regional Office representative. For information concerning rule development, contact Jim Eddinger, Combustion Group, Emission Standards Division (C439–01), U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541–5426, fax number (919) 541–5450, electronic mail address *eddinger.jim@epa.gov.*

**SUPPLEMENTARY INFORMATION:** Regulated Entities. Categories and entities potentially regulated by this action include:

| Category | NAICS code | SIC code | Examples of potentially regulated entities |
|---|---|---|---|
| Any industry using a boiler or process heater as defined in the final rule. | 211 | 13 | Extractors of crude petroleum and natural gas. |
| | 321 | 24 | Manufacturers of lumber and wood products. |
| | 322 | 26 | Pulp and paper mills. |
| | 325 | 28 | Chemical manufacturers. |
| | 324 | 29 | Petroleum refineries, and manufacturers of coal products. |
| | 316, 326, 339 | 30 | Manufacturers of rubber and miscellaneous plastic products. |
| | 331 | 33 | Steel works, blast furnaces. |
| | 332 | 34 | Electroplating, plating, polishing, anodizing, and coloring. |
| | 336 | 37 | Manufacturers of motor vehicle parts and accessories. |
| | 221 | 49 | Electric, gas, and sanitary services. |
| | 622 | 80 | Health services. |
| | 611 | 82 | Educational services. |

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists examples of the types of entities EPA is now aware could potentially be regulated by this action. Other types of entities not listed could also be affected. To determine whether your facility, company, business, organization, etc., is regulated by this action, you should examine the applicability criteria in § 63.7485 of the final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

*Docket.* The EPA has established an official public docket for this action under Docket ID No. OAR–2002–0058 and Docket ID No. A–96–47. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. All items may not be listed under both docket numbers, so interested parties should inspect both docket numbers to ensure that they have received all materials relevant to the final rule. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the Office of Air and Radiation Docket and Information Center (Air Docket) in the EPA Docket Center, Room B102, 1301 Constitution Ave., NW., Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket is (202)

566–1742. A reasonable fee may be charged for copying docket materials.

*Electronic Access.* You may access this **Federal Register** document electronically through the EPA Internet under the ''**Federal Register**'' listings at *http://www.epa.gov/fedrgstr/.*

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at *http://www.epa.gov/edocket/* to view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Once in the system, select ''search,'' then key in the appropriate docket identification number.

*Worldwide Web (WWW).* In addition to being available in the docket, an electronic copy of the final rule is also available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the final rule will be posted on the TTN policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg.* The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541–5384.

*Judicial Review.* Under section 307(b)(1) of the CAA, judicial review of the NESHAP is available by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by November 12, 2004. Only those objections to the final rule that were raised with reasonable specificity during the period for public comment may be raised during judicial review. Under section 307(b)(2) of the CAA, the requirements that are the subject of the final rule may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

*Background Information Document.* The EPA proposed the NESHAP for industrial, commercial, and institutional boilers and process heaters on January 13, 2003 (68 FR 1660) and received 218 comment letters on the proposal. A memorandum ''National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, Summary of Public Comments and Responses,'' containing EPA's responses to each public comment is available in Docket No. OAR–2002–0058.

*Outline.* The information presented in this preamble is organized as follows:

I. Background Information
A. What is the statutory authority for the final rule?
B. What criteria are used in the development of NESHAP?
C. How was the final rule developed?
D. What is the relationship between the final rule and other combustion rules?
E. What are the health effects of pollutants emitted from industrial, commercial, and institutional boilers and process heaters?
II. Summary of the Final Rule
A. What source categories and subcategories are affected by the final rule?
B. What is the affected source?
C. What pollutants are emitted and controlled?
D. Does the final rule apply to me?
E. What are the emission limitations and work practice standards?
F. What are the testing and initial compliance requirements?
G. What are the continuous compliance requirements?
H. What are the notification, recordkeeping and reporting requirements?
I. What are the health-based compliance alternatives, and how do I demonstrate eligibility?
III. What are the significant changes since proposal?
A. Definition of Affected Source
B. Sources Not Covered by the NESHAP
C. Emission Limits
D. Definitions Added or Revised
E. Requirements for Sources in Subcategories Without Emission Limits or Work Practice Requirements
F. Carbon Monoxide Work Practice Emission Levels and Requirements
G. Fuel Analysis Option
H. Emissions Averaging
I. Opacity Limit
J. Operating Limit Determination
K. Revision of Compliance Dates
IV. What are the responses to significant comments?
A. Applicability
B. Format
C. Compliance Schedule
D. Subcategorization
E. MACT Floor
F. Beyond the MACT Floor
G. Work Practice Requirements
H. Compliance
I. Emissions Averaging
J. Risk-based Approach
V. Impacts of the Final Rule
A. What are the air impacts?
B. What are the water and solid waste impacts?
C. What are the energy impacts?
D. What are the control costs?
E. What are the economic impacts?
F. What are the social costs and benefits of the final rule?
VI. Statutory and Executive Order Reviews
A. Executive Order 12866: Regulatory Planning and Review
B. Paperwork Reduction Act
C. Regulatory Flexibility Act
D. Unfunded Mandates Reform Act of 1995
E. Executive Order 13132: Federalism
F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments
G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks
H. Executive Order 13211: Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use
I. National Technology Transfer and Advancement Act
J. Congressional Review Act

## I. Background Information

### *A. What Is the Statutory Authority for the Final Rule?*

Section 112 of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. Industrial boilers, commercial and institutional boilers, and process heaters were listed on July 16, 1992 (57 FR 31576). Major sources of HAP are those that have the potential to emit greater than 10 tpy of any one HAP or 25 tpy of any combination of HAP.

### *B. What Criteria Are Used in the Development of NESHAP?*

Section 112(c)(2) of the CAA requires that we establish NESHAP for control of HAP from both existing and new major sources, based upon the criteria set out in CAA section 112(d). The CAA requires the NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable, taking into consideration the cost of achieving the emission reduction, any non-air quality health and environmental impacts, and energy requirements. This level of control is commonly referred to as the MACT.

The minimum control level allowed for NESHAP (the minimum level of stringency for MACT) is the ''MACT floor,'' as defined under section 112(d)(3) of the CAA. The MACT floor for existing sources is the emission limitation achieved by the average of the best-performing 12 percent of existing sources for categories and subcategories with 30 or more sources, or the average of the best-performing five sources for categories or subcategories with fewer than 30 sources. For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source.

### *C. How Was the Final Rule Developed?*

We proposed standards for industrial, commercial, and institutional boilers and process heaters on January 13, 2003 (68 FR 1660). Public comments were solicited at the time of proposal. The public comment period lasted from January 13, 2003, to March 14, 2003.

We received a total of 218 public comment letters on the proposed rule. Comments were submitted by industry trade associations, owners/operators of boilers and process heaters, State regulatory agencies and their representatives, and environmental groups. Today's final rule reflects our consideration of all of the comments and additional information received. Major public comments on the proposed rules, along with our responses to those comments, are summarized in this preamble.

*D. What Is the Relationship Between the Final Rule and Other Combustion Rules?*

The final rule regulates source categories covering industrial boilers, institutional and commercial boilers, and process heaters. These source categories potentially include combustion units that are already regulated by other MACT standards. Therefore, we are excluding from the final rule any combustion units that are already or will be subject to regulation under another MACT standard under 40 CFR part 63.

Combustion units that are regulated by other standards and are therefore excluded from the final rule include solid waste incineration units covered by section 129 of the CAA; boilers or process heaters required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by the hazardous waste combustor NESHAP in 40 CFR part 63, subpart EEE [1]; and recovery boilers or furnaces covered by 40 CFR part 63, subpart MM.

With regards to solid waste incineration units covered by section 129 of the CAA, EPA solicited on February 17, 2004 (69 FR 7390) public comments on the definition of ''commercial and industrial solid waste incineration unit'' for the purpose of determining which combustion sources to regulate under section 129 and which to regulate under section 112 (*e.g.*, boilers and process heaters). As stated above, combustion units covered under section 129 are not subject to the final rule.

Electric utility steam generating units are not subject to the final rule. An electric utility steam generating unit is 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. Non-fossil fuel-fired utility boilers and electric utility steam generating units less than 25 megawatts are covered by the final rule.

In 1986, EPA codified the NSPS for industrial boilers (40 CFR part 60, subparts Db and Dc) and revised portions of them in 1999. The NSPS regulates emissions of particulate matter (PM), sulfur dioxide, and nitrogen oxides from boilers constructed after June 19, 1984. Sources subject to the NSPS are also subject to the final rule because the final rule regulates sources of hazardous air pollutants while the NSPS does not. However, in developing the final rule for industrial, commercial, and institutional boilers and process heaters, EPA minimized the monitoring requirements, testing requirements, and recordkeeping requirements to avoid duplicating requirements.

Because of the broad applicability of the final rule due to the definition of a process heater, certain process heaters could appear to fit the applicability of another existing MACT rule. We have, therefore, included in the list of combustion units not subject to the final rule refining kettles subject to the secondary lead MACT rule (40 CFR part 63, subpart X); ethylene cracking furnaces covered by 40 CFR part 63, subpart YY; and blast furnace stoves described in the EPA document entitled ''National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Plants—Background Information for Proposed Standards'' (EPA–453/R–01–005).

*E. What Are the Health Effects of Pollutants Emitted From Industrial, Commercial, and Institutional Boilers and Process Heaters?*

The final rule protects air quality and promotes the public health by reducing emissions of some of the HAP listed in section 112(b)(1) of the CAA. As noted above, emissions data collected during development of the proposed rule show that HCl emissions represent the predominant HAP emitted by industrial boilers. Industrial boilers emit lesser amounts of hydrogen fluoride, chlorine, metals (arsenic, cadmium, chromium, mercury, manganese, nickel, and lead), and organic HAP emissions. Although numerous organic HAP may be emitted from industrial boilers and process heaters, only a few account for essentially all the mass of organic HAP emissions. These organic HAP are: Formaldehyde, benzene, and acetaldehyde.

Exposure to high levels of these HAP is associated with a variety of adverse health effects. These adverse health effects include chronic health disorders (*e.g.*, irritation of the lung, skin, and mucus membranes, effects on the central nervous system, and damage to the kidneys), and acute health disorders (*e.g.*, lung irritation and congestion, alimentary effects such as nausea and vomiting, and effects on the kidney and central nervous system). We have classified three of the HAP as human carcinogens and five as probable human carcinogens. Our screening assessment for respiratory HAP and for central nervous system (CNS) HAP, using health protective assumptions, indicates that manganese and chlorine are the only boiler-related HAP that are reasonably expected to approach health based criteria concentrations at receptor locations at or beyond facility boundaries. Emissions of all other HAP modeled on an individual basis appears to be insignificant relative to the concentration that would produce the health effects that they represent. The maximal hazard index (HI) for summation of the HAP modeled in the screening assessment for respiratory effects, including chlorine, was less than 3. The maximal HI for summation of the HAP modeled in the screening assessment for CNS effects, including manganese, was less than 3. Therefore, effects noted below for HAP at high concentrations are not expected to occur prior or after regulation as a result of emissions from these facilities, and are provided to illustrate the nature of the contaminant's effects at high dose. A screening assessment was also conducted for acute effects, and no exceedances were seen. Therefore, potential acute effects are not discussed below. However, to the extent the adverse effects do occur, the final rule will reduce emissions and subsequent exposures.

Acetaldehyde

Acetaldehyde is ubiquitous in the environment and may be formed in the body from the breakdown of ethanol (ethyl alcohol). In humans, symptoms of chronic (long-term) exposure to acetaldehyde resemble those of alcoholism. Long-term inhalation exposure studies in animals reported effects on the nasal epithelium and mucous membranes, and increased kidney weight. The EPA has classified acetaldehyde as a probable human carcinogen (Group B2) based on animal studies that have shown nasal tumors in rats and laryngeal tumors in hamsters.

[1] Please note that boilers that burn small quantities of hazardous waste under the exemptions provided by 40 CFR 266.108 are subject to today's final rule.


Attachment I
Attachment I

Arsenic

Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Human data suggest a relationship between inhalation exposure for women working at or living near metal smelters and an increased risk of reproductive effects. Inorganic arsenic exposure in humans by the inhalation route has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. The EPA has classified inorganic arsenic as a Group A, human carcinogen.

Benzene

Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene. The EPA has classified benzene as a Group A, known human carcinogen.

Beryllium

Chronic (long-term) inhalation exposure of humans to high levels of beryllium has been reported to cause chronic beryllium disease (berylliosis), in which granulomatous (noncancerous) lesions develop in the lung. Inhalation exposure to high levels of beryllium has been demonstrated to cause lung cancer in rats and monkeys. Human studies are limited, but suggest a causal relationship between beryllium exposure and an increased risk of lung cancer. We have classified beryllium as a Group B1, probable human carcinogen, when inhaled; data are inadequate to determine whether beryllium is carcinogenic when ingested.

Cadmium

Chronic (long-term) inhalation or oral exposure to cadmium leads to a build-up of cadmium in the kidneys that can cause kidney disease. Cadmium has been shown to be a developmental toxicant at high doses in animals, resulting in fetal malformations and other effects, but no conclusive evidence exists in humans. Animal studies have demonstrated an increase in lung cancer from long-term inhalation exposure to cadmium. The EPA has classified cadmium as a Group B1, probable carcinogen.

Chlorine

Chlorine is a commonly used household cleaner and disinfectant. Chlorine is an irritant to the eyes, the upper respiratory tract, and lungs. Chronic (long-term) exposure to chlorine gas in workers has resulted in respiratory effects, including eye and throat irritation and airflow obstruction. No information is available on the carcinogenic effects of chlorine in humans from inhalation exposure. A National Toxicology Program (NTP) study showed no evidence of carcinogenic activity in male rats or male and female mice, and equivocal evidence in female rats, from ingestion of chlorinated water. The EPA has not classified chlorine for potential carcinogenicity.

Chromium

Chromium may be emitted by industrial boilers in two forms, trivalent chromium (chromium III) or hexavalent chromium (chromium VI). The respiratory tract is the major target organ for chromium VI toxicity for inhalation exposures. Bronchitis, decreased pulmonary function, pneumonia, and other respiratory effects have been noted from chronic high dose exposure in occupational settings to chromium VI. Limited human studies suggest that chromium VI inhalation exposure may be associated with complications during pregnancy and childbirth, while animal studies have not reported reproductive effects from inhalation exposure to chromium VI. Human and animal studies have clearly established that inhaled chromium VI is a carcinogen, resulting in an increased risk of lung cancer. The EPA has classified chromium VI as a Group A, human carcinogen.

Chromium III is less toxic than chromium VI. The respiratory tract is also the major target organ for chromium III toxicity, similar to chromium VI. Chromium III is an essential element in humans, with a daily intake of 50 to 200 micrograms per day recommended for an adult. The body can detoxify some amount of chromium VI to chromium III. The EPA has not classified chromium III with respect to carcinogenicity.

Formaldehyde

Exposure to formaldehyde irritates the eyes, nose, and throat. Reproductive effects, such as menstrual disorders and pregnancy problems, have been reported in female workers exposed to high levels of formaldehyde. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. The EPA considers formaldehyde a probable human carcinogen (Group B2).

Hydrogen chloride

Hydrogen chloride, also called hydrochloric acid, is corrosive to the eyes, skin, and mucous membranes at high concentration. Chronic (long-term) occupational exposure to high levels of hydrochloric acid has been reported to cause gastritis, bronchitis, and dermatitis in workers. Prolonged exposure to lower concentrations may also cause dental discoloration and erosion. No information is available on the reproductive or developmental effects of hydrochloric acid in humans. In rats exposed to high levels of hydrochloric acid by inhalation, altered estrus cycles have been reported in females and increased fetal mortality and decreased fetal weight have been reported in offspring. The EPA has not classified hydrochloric acid for carcinogenicity.

Hydrogen fluoride

Chronic (long-term) exposure to fluoride at low levels has a beneficial effect of dental cavity prevention and may also be useful for the treatment of osteoporosis. Exposure to higher levels of fluoride may cause dental fluorosis. One study reported menstrual irregularities in women occupationally exposed to fluoride. The EPA has not classified hydrogen fluoride for carcinogenicity.

Lead

Lead can cause a variety of effects at low dose levels. Chronic (long-term) exposure to high levels of lead in humans results in effects on the blood, central nervous system (CNS), blood pressure, and kidneys. Children are particularly sensitive to the chronic effects of lead, with slowed cognitive development, reduced growth and other effects reported. Reproductive effects, such as decreased sperm count in men and spontaneous abortions in women, have been associated with lead exposure. The developing fetus is at particular risk from maternal lead exposure, with low birth weight and slowed postnatal neurobehavioral development noted. Human studies are inconclusive regarding lead exposure and cancer, while animal studies have reported an increase in kidney cancer from high-dose lead exposure by the oral route. The EPA has classified lead as a Group B2, probable human carcinogen.


Attachment I
Attachment I

Manganese

Health effects in humans have been associated with both deficiencies and excess intakes of manganese. Chronic (long-term) exposure to low levels of manganese in the diet is considered to be nutritionally essential in humans, with a recommended daily allowance of 2 to 5 milligrams per day (mg/d). Chronic exposure to high levels of manganese by inhalation in humans results primarily in CNS effects. Visual reaction time, hand steadiness, and eye-hand coordination were affected in chronically-exposed workers. Impotence and loss of libido have been noted in male workers afflicted with manganism attributed to high-dose inhalation exposures. The EPA has classified manganese in Group D, not classifiable as to carcinogenicity in humans.

Mercury

Mercury exists in three forms: Elemental mercury, inorganic mercury compounds (primarily mercuric chloride), and organic mercury compounds (primarily methyl mercury). Each form exhibits different health effects. Various major sources may release elemental or inorganic mercury; environmental methyl mercury is typically formed by biological processes after mercury has precipitated from the air.

Chronic (long-term) exposure to elemental mercury in humans also affects the CNS, with effects such as increased excitability, irritability, excessive shyness, and tremors. The EPA has not classified elemental mercury with respect to cancer.

The major effect from chronic exposure to inorganic mercury is kidney effects. Reproductive and developmental animal studies have reported effects such as alterations in testicular tissue, increased embryo resorption rates, and abnormalities of development. Mercuric chloride (an inorganic mercury compound) exposure has been shown to result in tumors in experimental animals. The EPA has classified mercuric chloride as a Group C, possible human carcinogen.

Nickel

Nickel is an essential element in some animal species, and it has been suggested it may be essential for human nutrition. Nickel dermatitis, consisting of itching of the fingers, hand and forearms, is the most common effect in humans from chronic (long-term) skin contact with nickel. Respiratory effects have also been reported in humans from inhalation exposure to nickel. No information is available regarding the reproductive or developmental effects of nickel in humans, but animal studies have reported such effects, although a consistent dose-response relationship has not been seen. Nickel forms released from industrial boilers include soluble nickel compounds, nickel subsulfide, and nickel carbonyl. Human and animal studies have reported an increased risk of lung and nasal cancers from exposure to nickel refinery dusts and nickel subsulfide. Animal studies of soluble nickel compounds (*i.e.*, nickel carbonyl) have reported lung tumors. The EPA has classified nickel refinery subsulfide as Group A, human carcinogens and nickel carbonyl as a Group B2, probable human carcinogen.

Selenium

Selenium is a naturally occurring substance that is toxic at high concentrations but is also a nutritionally essential element. Studies of humans chronically (long-term) exposed to high levels of selenium in food and water have reported discoloration of the skin, pathological deformation and loss of nails, loss of hair, excessive tooth decay and discoloration, lack of mental alertness, and listlessness. The consumption of high levels of selenium by pigs, sheep, and cattle has been shown to interfere with normal fetal development and to produce birth defects. Results of human and animal studies suggest that supplementation with some forms of selenium may result in a reduced incidence of several tumor types. One selenium compound, selenium sulfide, is carcinogenic in animals exposed orally. We have classified elemental selenium as a Group D, not classifiable as to human carcinogenicity, and selenium sulfide as a Group B2, probable human carcinogen.

## II. Summary of the Final Rule

### *A. What Source Categories and Subcategories Are Affected by the Final Rule?*

The final rule affects industrial boilers, institutional and commercial boilers, and process heaters. In the final rule, process heater means an enclosed device using controlled flame, that is not a boiler, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to heat a transfer material for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves. Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded from the definition of boiler. A waste heat boiler (or heat recovery steam generator) means a device, without controlled flame combustion, that recovers normally unused energy and converts it to usable heat. Waste heat boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat boiler are considered boilers and not waste heat boilers. Emissions from a combustion unit with a waste heat boiler are regulated by the applicable standards for the particular type of combustion unit. For example, emissions from a commercial or industrial solid waste incineration unit, or other incineration unit with a waste heat boiler are regulated by standards established under section 129 of the CAA.

Hot water heaters also are not regulated under the final rule. A hot water heater is a closed vessel, with a capacity of no more than 120 U.S. gallons, in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 pounds per square inch gauge and water temperatures not exceeding 210 degree Fahrenheit (99 degrees Celsius).

Temporary boilers also are not regulated under the final rule. A temporary boiler is any gaseous or liquid fuel-fired boiler that is designed, and is capable of, being carried or moved from one location to another, and remains at any one location for less than 180 consecutive days. Additionally, any new temporary boiler that replaces an existing temporary boiler and is intended to perform the same or similar function will be included in the determination of the consecutive 180-day time period.

Boilers or process heaters that are used specifically for research and development are not regulated under the final rule. However, units that only provide steam to a process at a research and development facility are still subject to the final rule.

### *B. What Is the Affected Source?*

In the final rule, the affected source is defined as follows: (1) The collection of all existing industrial, commercial, or institutional boilers and process heaters within a subcategory located at a major source; or (2) each new or reconstructed industrial, commercial or institutional

boiler and process heater located at a major source.

The affected source does not include combustion units that are subject to another standard under 40 CFR part 63, or covered by other standards listed in this preamble.

*C. What Pollutants Are Emitted and Controlled?*

Boilers and process heaters can emit a wide variety of HAP, depending on the material burned. Because of the large number of HAP potentially present in emissions and the disparity in the quantity and quality of the emissions information available, we use several surrogates to control multiple HAP in the final rule. This will reduce the burden of implementation and compliance on both regulators and the regulated community.

We grouped the HAP into four common categories: mercury, non-mercury metallic HAP, inorganic HAP, and organic HAP. In general, the pollutants within each group have similar characteristics and can be controlled with the same techniques.

Next, we identified compounds that could be used as surrogates for all the compounds in each pollutant category. For the non-mercury metallic HAP, we chose to use PM as a surrogate. Most, if not all, non-mercury metallic HAP emitted from combustion sources will appear on the flue gas fly-ash. Therefore, the same control techniques that would be used to control the fly-ash PM will control non-mercury metallic HAP. Particulate matter was also chosen instead of specific metallic HAP because all fuels do not emit the same type and amount of metallic HAP but most generally emit PM. The use of PM as a surrogate will also eliminate the cost of performance testing to comply with numerous standards for individual metals.

However, we are sensitive to the fact that some sources burn fuels containing very little metals, but would have sufficient PM emissions to require control under the PM provisions of the proposed rule. In such cases, PM would not be an appropriate surrogate for metallic HAP. Therefore, in the final rule, an alternative metals emission limit is included. A source may choose to comply with the alternative metals emissions limit instead of the PM limit to meet the final rule.

For inorganic HAP, we chose to use HCl as a surrogate. The emissions test information available indicate that the primary inorganic HAP emitted from boilers and process heaters are acid gases, with HCl present in the largest amounts. Other inorganic compounds emitted are found in much smaller quantities. Also, control technologies that would reduce HCl would also control other inorganic compounds that are acid gases. Thus, the best controls for HCl would also be the best controls for other inorganic HAP that are acid gases. Therefore, HCl is a good surrogate for inorganic HAP because controlling HCl will result in a corresponding control of other inorganic HAP emissions.

For organic HAP, we chose to use carbon monoxide (CO) as a surrogate to represent the variety of organic compounds, including dioxins, emitted from the various fuels burned in boilers and process heaters. Because CO is a good indicator of incomplete combustion, there is a direct correlation between CO emissions and the formation of organic HAP emissions. Monitoring equipment for CO is readily available, which is not the case for organic HAP. Also, it is significantly easier and less expensive to measure and monitor CO emissions than to measure and monitor emissions of each individual organic HAP. Therefore, using CO as a surrogate for organic HAP is a reasonable approach because minimizing CO emissions will result in minimizing organic HAP emissions.

*D. Does the Final Rule Apply to Me?*

The final rule applies to you if you own or operate a boiler or process heater located at a major source meeting the requirements in the final rule.

*E. What Are the Emission Limitations and Work Practice Standards?*

You must meet the emission limits and work practice standards for the subcategories in Table 1 of this preamble for each of the pollutants listed. Emission limits and work practice standards were developed for new and existing sources; and for large, small, and limited use solid, liquid, and gas fuel-fired units. Large units are those watertube boilers and process heaters with heat input capacities greater than 10 million British thermal units per hour (MMBtu/hr). Small units are any firetube boilers or any boiler and process heater with heat input capacities less than or equal to 10 MMBtu/hr. Limited use units are those large units with capacity utilizations less than or equal to 10 percent as required in a federally enforceable permit.

If your new or existing boiler or process heater is permitted to burn a solid fuel (either as a primary fuel or a backup fuel), or any combination of solid fuel with liquid or gaseous fuel, the unit is in one of the solid subcategories. If your new or existing boiler or process heater burns a liquid fuel, or a liquid fuel in combination with a gaseous fuel, the unit is in one of the liquid subcategories, except if the unit burns liquid only during periods of gas curtailment. If your new or existing boiler or process heater burns a gaseous fuel not combined with any liquid or solid fuels, or burns liquid fuel only during periods of gas curtailment or gas supply emergencies, the unit is in the gaseous subcategory.

TABLE 1—EMISSION LIMITS AND WORK PRACTICE STANDARDS FOR BOILERS AND PROCESS HEATERS

[(Pounds per million British thermal units (lb/MMBtu)]

| Source | Subcategory | Particulate Matter (PM) | or | Total Selected Metals | Hydrogen Chloride (HCl) | Mercury (Hg) | Carbon Monoxide (CO) (ppm) |
|---|---|---|---|---|---|---|---|
| New or reconstructed Boiler or Process Heater. | Solid Fuel, Large Unit. | 0.025 | or | 0.0003 | 0.02 | 0.000003 | 400 (@7% oxygen). |
| | Solid Fuel, Small Unit. | 0.025 | or | 0.0003 | 0.02 | 0.000003 | |
| | Solid Fuel, Limited Use. | 0.025 | or | 0.0003 | 0.02 | 0.000003 | 400 (@7% oxygen). |
| | Liquid Fuel, Large Unit. | 0.03 | ..... | ..... | 0.0005 | ..... | 400 (@3% oxygen). |

TABLE 1—EMISSION LIMITS AND WORK PRACTICE STANDARDS FOR BOILERS AND PROCESS HEATERS—Continued

[(Pounds per million British thermal units (lb/MMBtu)]

| Source | Subcategory | Particulate Matter (PM) | or | Total Selected Metals | Hydrogen Chloride (HCl) | Mercury (Hg) | Carbon Monoxide (CO) (ppm) |
|---|---|---|---|---|---|---|---|
| | Liquid Fuel, Small Unit. | 0.03 | ..... | ..... | 0.0009 | ..... | |
| | Liquid Fuel, Limited Use. | 0.03 | ..... | ..... | 0.0009 | ..... | 400 (@3% oxygen). |
| | Gaseous Fuel, Large Unit. | | ..... | ..... | ..... | ..... | 400 (@3% oxygen). |
| | Gaseous Fuel, Small Unit. | | ..... | ..... | ..... | ..... | |
| | Gaseous Fuel Limited Use. | | ..... | ..... | ..... | ..... | 400 (@3% oxygen). |
| Existing Boiler or Process Heater. | Solid Fuel, Large Unit. | 0.07 | or | 0.001 | 0.09 | 0.000009 | |
| | Solid Fuel, Small Unit. | | ..... | ..... | ..... | ..... | |
| | Solid Fuel, Limited Use. | 0.21 | or | 0.004 | ..... | ..... | |
| | Liquid Fuel, Large Unit. | | ..... | ..... | ..... | ..... | |
| | Liquid Fuel, Small Unit. | | ..... | ..... | ..... | ..... | |
| | Liquid Fuel, Limited Use. | | ..... | ..... | ..... | ..... | |
| | Gaseous Fuel ..... | | ..... | ..... | ..... | ..... | |

For solid fuel-fired boilers or process heaters, sources may choose one of two emission limit options: (1) Existing and new affected units may choose to limit PM emissions to the level listed in Table 1 of this preamble, or (2) existing and new affected units may choose to limit total selected metals emissions to the level listed in Table 1 of this preamble. Sources meeting the emission limits must also meet operating limits.

We have provided several compliance alternatives in the final rule. Sources may choose to demonstrate compliance based on the fuel pollutant content. Sources are also allowed to demonstrate compliance for existing large solid fuel units using emissions averaging.

*F. What Are the Testing and Initial Compliance Requirements?*

As the owner or operator of a new or existing boiler or process heater, you must conduct performance tests (*i.e.* stack testing) or an initial fuel analysis to demonstrate compliance with any applicable emission limits. The applicable emission limits and, therefore, the required performance tests and fuel analysis are different depending on the subcategory classification of the unit. Existing units in the small solid fuel subcategory and existing units in any of the liquid or gaseous fuel subcategories do not have applicable emission limits and, therefore, are not required to conduct stack tests or fuel analyses. Other units are required to conduct the following compliance tests or fuel analyses where applicable:

(1) Conduct initial and annual stack tests to determine compliance with the PM emission limits using EPA Method 5 or Method 17 in appendix A to part 60 of this chapter.

(2) Affected sources in the solid fuel subcategories may choose to comply with an alternative total selected metals emission limit instead of PM. Sources would conduct initial and annual stack tests to determine compliance with the total selected metals emission limit using EPA Method 29 in appendix A to part 60 of this chapter.

(3) Conduct initial and annual stack tests to determine compliance with the mercury emission limits using EPA Method 29 in appendix A to part 60 of this chapter or the ASTM D6784–02.

(4) Conduct initial and annual stack tests to determine compliance with the HCl emission limits using EPA Method 26 in appendix A to part 60 of this chapter (for boilers without wet scrubbers) or EPA Method 26A in appendix A to part 60 of this chapter (for boilers with wet scrubbers).

(5) For new boilers and process heaters in any of the limited use subcategories and new boilers and process heaters in any of the large subcategories with heat input capacities greater than 10 MMBtu/hr but less than 100 MMBtu/hr, conduct initial and annual stack tests to determine compliance with the CO work practice limit using EPA Method 10, 10A, or 10B in appendix A to part 60 of this chapter.

(6) Use EPA Method 19 in appendix A to part 60 of this chapter to convert measured concentration values to pounds per million British thermal units (MMBtu) values.

(7) For new units in any of the liquid fuel subcategories that do not burn residual oil, instead of conducting an initial and annual compliance test you may submit a signed statement in the Notification of Compliance Status report that indicates that you only burn liquid fossil fuels other than residual oil.

(8) For affected sources that choose to meet the emission limits based on fuel analysis, conduct the fuel analysis using method ASTM D5865–01ae1 or ASTM E711–87 to determine heat content; ASTM D3684–01 (for coal), SW–846–7471A (for solid samples) or SW–846–7470A (for liquid samples) to determine mercury levels; SW–846–6010B or ASTM D3683–94 (for coal) or ASTM E885–88 (for biomass) to determine total selected metals concentration; SW–846–9250 or ASTM E776–87 (for biomass) to determine chlorine concentration; and ASTM D3173 or ASTM E871 to determine moisture content.

As part of the initial compliance demonstration, you must monitor specified operating parameters during the initial performance tests that demonstrate compliance with the PM (or metals), mercury, and HCl emission limits. You must calculate the average parameter values measured during each

test run over the 3-run performance test. The minimum or maximum of the three average values (depending on the parameter measured) for each applicable parameter establishes the site-specific operating limit. The applicable operating parameters for which operating limits must be established are based on the emissions limits applicable to your unit as well as the types of add-on controls on the unit. A summary of the operating limits that must be established for the various types of controls are as follows:

(1) For boilers and process heaters without wet scrubbers that must comply with the mercury emission limit and either a PM emission limit or a total selected metals emission limit, you must meet an opacity limit of 20 percent for existing sources (based on 6-minute averages), except for one 6-minute period per hour of not more than 27 percent, or 10 percent for new sources (based on 1-hour block averages). Or, if the unit is controlled with a fabric filter, instead of meeting an opacity operating limit, you may elect to operate the fabric filter using a bag leak detection system such that corrective actions are initiated within 1 hour of a bag leak detection system alarm and you operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month reporting period.

(2) For boilers and process heaters without wet or dry scrubbers that must comply with an HCl emission limit, you must determine the average chloride content level in the input fuel(s) during the HCl performance test. This is your maximum chloride input operating limit.

(3) For boilers and process heaters with wet scrubbers that must comply with a mercury, PM (or total selected metals) and/or an HCl emission limit, you must measure pressure drop and liquid flow rate of the scrubber during the performance test and calculate the average value for each test run. The minimum test run average establishes your site-specific pressure drop and liquid flow rate operating levels. If different average parameter levels are measured during the mercury, PM (or metals) and HCl tests, the highest of the minimum test run average values establishes your site-specific operating limit. If you are complying with an HCl emission limit, you must measure pH during the performance test for HCl and determine the average for each test run and the minimum value for the performance test. This establishes your minimum pH operating limit.

(4) For boilers and process heaters with dry scrubbers that must comply with an HCl emission limit, you must measure the sorbent injection rate during the performance test for mercury and HCl and calculate the average for each test run. The minimum test run average during the performance test establishes your site-specific minimum sorbent injection rate operating limit.

(5) For boilers and process heaters with fabric filters in combination with wet scrubbers that must comply with a mercury emission limit, PM (or total selected metals) emission limit and/or an HCl emission limit, you must measure the pH, pressure drop, and liquid flowrate of the wet scrubber during the performance test and calculate the average value for each test run. The minimum test run average establishes your site-specific pH, pressure drop, and liquid flowrate operating limits for the wet scrubber. Furthermore, the 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 any 6-month period.

(6) For boilers and process heaters with electrostatic precipitators (ESP) in combination with wet scrubbers that must comply with a mercury, PM (or total selected metals) and/or an HCl emission limit, you must measure the pH, pressure drop, and liquid flow rate of the wet scrubber during the HCl performance test, and you must measure the voltage and secondary current of the ESP collection plates or total power input during the mercury and PM (or metals) performance test. Calculate the average value of these parameters for each test run. The minimum test run averages establish your site-specific minimum pH, pressure drop, and liquid flowrate operating limit for the wet scrubber and the minimum voltage and current operating limits for the ESP.

(7) For boilers and process heaters that choose to comply with the alternative total selected metals emission limit instead of PM, you must determine the total selected metals content of the inlet fuels that were burned during the total selected metals performance test. This value is your maximum fuel inlet metals content operating limit.

(8) For boilers and process heaters that burn a mixture of multiple fuels, you must determine the mercury content of the inlet fuels that were burned during the mercury performance test. This value is your maximum fuel inlet mercury operating limit. Units burning only a single fuel type (not including start-up fuels) do not need to determine, by fuel analysis, the fuel inlet operating limit when conducting performance tests.

(9) For new boilers and process heaters in any of the large subcategories and with heat input capacities greater or equal to 100 MMBtu/hr, you must monitor CO to demonstrate that average CO emissions, on a 30-day rolling average, are at or below an exhaust concentration of 400 parts per million (ppm) by volume on a dry basis corrected to 3 percent oxygen for units in the liquid subcategories and corrected to 7 percent for units in the solid subcategories. For new boilers and process heaters in any of the limited use subcategories or with heat input capacities less than 100 MMBtu/hr, you must conduct initial test of CO emissions to demonstrate compliance with the CO work practice limit.

The final rule also provides you another compliance alternative. You may demonstrate compliance by emissions averaging for existing large solid fuel boilers in States that choose to allow emissions averaging in their operating permit program.

*G. What Are the Continuous Compliance Requirements?*

To demonstrate continuous compliance with the emission limitations, you must monitor and comply with the applicable site-specific operating limits established during the performance tests or fuel analysis. Upon detecting an excursion or exceedance, you must restore operation of the unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance. Such actions may include initial inspections and evaluation, recording that operations returned to normal without operator action, or any necessary follow-up actions to return operation to below the work practice standard.

(1) For boilers and process heaters without wet scrubbers that must comply with a mercury emission limit and either a PM emission limit or a total selected metals emission limit, you must continuously monitor opacity and maintain the opacity at or below the maximum opacity operating limit for new and existing sources. Or, if the unit is controlled with a fabric filter, instead of continuous monitoring opacity, the fabric filter may be continuously operated such that the bag leak detection system alarm does not sound

more than 5 percent of the operating time during any 6-month period.

(2) For boilers and process heaters without wet or dry scrubbers that must comply with an HCl emission limit, you must maintain monthly records of fuel use that demonstrate that you have burned no new fuel types or new mixtures such that you have maintained the fuel HCl content level at or below your site-specific maximum HCl input operating limit. If you plan to burn a new fuel type or a new mixture than what was burned during the initial performance test, then you must re-calculate the maximum HCl input anticipated from the new fuels based on supplier data or your own fuel analysis. If the results of re-calculating the HCl input exceeds the average HCl content level established during the initial test, then you must conduct a new performance test to demonstrate continuous compliance with the HCl emission limit.

(3) For boilers and process heaters with wet scrubbers that must comply with a mercury, PM (or total selected metals) and/or an HCl emission limit, you must monitor pressure drop and liquid flow rate of the scrubber and maintain the 3-hour block averages at or above the operating limits established during the performance test. You must monitor the pH of the scrubber and maintain the 3-hour block average at or above the operating limit established during the performance test to demonstrate continuous compliance with the HCl emission limits.

(4) For boilers and process heaters with dry scrubbers that must comply with a PM (or total selected metals) or mercury emission limit, and/or an HCl emission limit, you must continuously monitor the sorbent injection rate and maintain it at or above the operating limits established during the HCl performance test.

(5) For boilers and process heaters with fabric filters in combination with wet scrubbers, you must monitor the pH, pressure drop, and liquid flow rate of the wet scrubber and maintain the levels at or above the operating limits established during the HCl performance test. You must also maintain the operation of the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during any 6-month period.

(6) For boilers and process heaters with ESP in combination with wet scrubbers that must comply with a mercury, PM and/or an HCl emission limit, you must monitor the pH, pressure drop, and liquid flow rate of the wet scrubber and maintain the 3-hour block averages at or above the operating limits established during the HCl performance test. Also, you must monitor the voltage and secondary current of the ESP collection plates or total power input and maintain the 3-hour block averages at or above the operating limits established during the mercury or PM (or metals) performance test.

(7) For boilers and process heaters that choose to comply with the alternative total selected metals limit instead of PM emission limit, you must maintain monthly fuel records that demonstrate that you burned no new fuel type or new mixtures such that the total selected metals content of the inlet fuel was maintained at or below your maximum fuel inlet metals content operating limit set during the metals performance test. If you plan to burn a new fuel type or new mixture, then you must re-calculate the maximum metals input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of re-calculating the metals input exceeds the average metals content level established during the initial test, then you must conduct a new performance test to demonstrate continuous compliance with the alternate selected metals emission limit.

(8) For boilers and process heaters that must comply with the mercury emission limit, you must maintain monthly fuel records that demonstrate that you burned no new fuel type or new mixture such that the total selected mercury content of the inlet fuel was maintained at or below your maximum fuel inlet metals content operating limit set during the mercury performance test. If you plan to burn a new fuel type or new mixture than what was burned during the initial performance test, then you must re-calculate the maximum mercury input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of re-calculating the mercury input exceeds the average mercury content level established during the initial test, then you must conduct a new performance test to demonstrate continuous compliance with the mercury emission limit.

(9) For boilers and process heaters that choose to comply with any emission limit based on fuel analysis, you must maintain monthly fuel records to demonstrate that the content of fuel is maintained below the appropriate applicable emission limit.

(10) For new boilers and process heaters in any of the large subcategories with heat input capacities greater or equal to 100 MMBtu/hr, you must continuously monitor CO and maintain the 30-day rolling average CO emissions at or below 400 ppm by volume on a dry basis (corrected to 3 percent oxygen for units in the liquid or gaseous subcategories, and 7 percent for units in the solid fuel subcategories) to demonstrate compliance with the work practice standards at all times except during startup, shutdown, and malfunction and when the unit is operating less than 50 percent of the rated capacity.

If a control device other than the ones specified in this section is used to comply with the final rule, you must establish site-specific operating limits and establish appropriate continuous monitoring requirements, as approved by the EPA Administrator.

If you choose to comply using emissions averaging, you must demonstrate on a monthly basis that mercury, metals, PM, and HCl emission limits can be met over a 12-month period.

*H. What Are the Notification, Recordkeeping and Reporting Requirements?*

If your boiler or process heater is in the existing large gaseous fuel subcategory, or existing limited use gaseous fuel subcategory, or existing large liquid fuel subcategory, or existing limited use liquid fuel subcategory, or a new small liquid fuel unit that only burn gaseous fuels or distillate oil, you only have to submit the initial notification report. If your boiler or process heater is in the existing small gaseous, liquid, or solid fuel subcategories or new small gaseous fuel subcategory, you are not required to keep any records or submit any reports.

If your boiler or process heater is in any other subcategory, then you must keep the following records:

(1) All reports and notifications submitted to comply with the final rule.

(2) Continuous monitoring data as required in the final rule.

(3) Each instance in which you did not meet each emission limit work practice and operating limit, including periods of startup, shutdown, and malfunction (*i.e.*, deviations from the final rule).

(4) Monthly hours of operation by each source that is in a limited use subcategory.

(5) Monthly fuel use by each boilers and process heaters subject to an emission limit including a description of the type(s) of fuel(s) burned, amount of each fuel type burned, and units of measure.

(6) Calculations and supporting information of chloride fuel input, as required in the final rule.


Attachment I
Attachment I

(7) Calculations and supporting information of total selected metals and mercury fuel input, as required in the final rule, if applicable.

(8) A copy of the results of all performance tests, fuel analysis, opacity observations, performance evaluations, or other compliance demonstrations conducted to demonstrate initial or continuous compliance with the final rule.

(9) A copy of any federally enforceable permit that limits the annual capacity factor of the source to less than or equal to 10 percent.

(10) A copy of your site-specific startup, shutdown, and malfunction plan.

(11) A copy of your site-specific monitoring plan developed for the final rule, if applicable.

(12) A copy of your site-specific fuel analysis plan developed for the final rule, if applicable.

(13) A copy of the emissions averaging plan, if applicable.

You must submit the following reports and notifications:

(1) Notifications required by the General Provisions.

(2) Initial Notification no later than 120 calendar days after you become subject to the final rule.

(3) Notification of Intent to conduct performance tests and/or compliance demonstration at least 30 calendar days before the performance test and/or compliance demonstration is scheduled.

(4) Notification of Compliance Status 60 calendar days following completion of the performance test and/or compliance demonstration.

(5) Notification of intent to demonstrate compliance by emissions averaging.

(6) Notification of intent to demonstrate eligibility for either health-based compliance alternative.

(7) Compliance reports semi-annually.

*I. What Are the Health-Based Compliance Alternatives, and How Do I Demonstrate Eligibility?*

HCl Compliance Alternative

As an alternative to the requirement for each large solid fuel-fired boiler to demonstrate compliance with the HCl emission limit in the final rule, you may demonstrate compliance with a health-based HCl equivalent allowable emission limit.

The procedures for demonstrating eligibility for the HCl compliance alternative (as outlined in appendix A of the final rule) are:

(1) You must include in your demonstration every emission point covered under the final rule.

(2) You must conduct HCl and chlorine emissions tests for every emission point covered under the final rule.

(3) You must determine the total maximum hourly mass HCl-equivalent emission rate for your affected source by summing the maximum hourly emission rates of HCl and chlorine for each of the affected units at your facility covered under the final rule.

(4) Use the look-up table in the appendix A of the final rule to determine if your facility is in compliance with the health-based HCl-equivalent emission limit.

(5) Select the maximum allowable HCl-equivalent emission rate from the look-up table in appendix A of the final rule for your affected source using the average stack height of your emission units covered under the final rule as your stack height and the minimum distance between any affected emission point and the property boundary as your property boundary.

(6) Your facility is in compliance if your maximum HCl-equivalent emission rate does not exceed the value specified in the look-up table in appendix A of the final rule.

(7) As an alternative to using the look-up table, you may conduct a site-specific compliance demonstration (as outlined in appendix A of the final rule) which demonstrates that the subpart DDDDD units at your facility are not expected to cause an individual chronic inhalation exposure from HCl and chlorine which can exceed a Hazard Index (HI) value of 1.0.

Total Selected Metals Compliance Alternative

In lieu of complying with the emission standard for total selected metals (TSM) in the final rule based on the sum of emissions for the eight selected metals, you may demonstrate eligibility for complying with the TSM standard based on excluding manganese emissions from the summation of TSM emissions for the affected source unit(s).

The procedures for demonstrating eligibility for the TSM compliance alternative (as outlined in appendix A of the final rule) are:

(1) You must include in your demonstration every emission point covered under the final rule that emits manganese.

(2) You must conduct manganese emissions tests for every emission point covered under the final rule that emits manganese.

(3) You must determine the total maximum hourly manganese emission rate from your affected source by summing the maximum hourly manganese emission rates for each of the affected units at your facility covered under the final rule.

(4) Use the look-up table in appendix A of the final rule to determine if your facility is eligible for complying with the alternative TSM limit based on the sum of emissions for seven metals (excluding manganese) for the affected source units.

(5) Select the maximum allowable manganese emission rate from the look-up table in appendix A of the final rule for your affected source using the average stack height of your emission units covered under the final rule as your stack height and the minimum distance between any of those emission points and the property boundary as your property boundary.

(6) Your facility is eligible if your maximum manganese emission rate does not exceed the value specified in the look-up table in appendix A of the final rule.

(7) As an alternative to using look-up table to determine if your facility is eligible for the TSM compliance alternative, you may conduct a site-specific compliance demonstration (as outlined in appendix A of the final rule) which demonstrates that the subpart DDDDD units at your facility are not expected to cause an individual chronic inhalation exposure from manganese which can exceed a Hazard Quotient (HQ) value of 1.0.

If you elect to demonstrate eligibility for either of the health-based compliance alternatives, you must submit certified documentation supporting compliance with the procedures at least 1 year before the compliance date.

You must submit supporting documentation including documentation of all maximum capacities, existing control devices used to reduce emissions, stack parameters, and property boundary distances to each affected source of HCl-equivalent and/or manganese emissions.

You must keep records of the information used in developing the eligibility demonstration for your affected source.

To be eligible for either health-based compliance alternative, the parameters that defined your affected source as eligible for the health-based compliance alternatives (including, but not limited to, fuel type, type of control devices, process parameters reflecting the emission rates used for your eligibility demonstration) must be incorporated as Federally enforceable limits into your title V permit. If you do not meet these criteria, then your affected source is subject to the applicable emission

limits, operating limits, and work practice standards in the final rule.

If you intend to change key parameters (including distance of stack to the property boundary) that may result in lower allowable health-based emission limits, you must recalculate the limits under the provisions of this section, and submit documentation supporting the revised limits prior to initiating the change to the key parameter.

If you intend to install a new solid fuel-fired boiler or process heater or change any existing emissions controls that may result in increasing HCl-equivalent and/or manganese emissions, you must recalculate the total maximum hourly HCl-equivalent and/or manganese emission rate from your affected source, and submit certified documentation supporting continued eligibility under the revised information prior to initiating the new installation or change to the emissions controls.

## III. What Are the Significant Changes Since Proposal?

### *A. Definition of Affected Source*

The definition of affected source in § 63.7490 has been revised to be: (1) The collection of all existing industrial, commercial, or institutional boilers or process heaters within a subcategory located at a major source; and/or (2) each new or reconstructed industrial, commercial, or institutional boiler or process heater located at a major source.

### *B. Sources Not Covered by the NESHAP*

The applicability section of the final rule (§ 63.7490(c)) has been written to clarify that the following are not subject to the final rule: Blast furnace stoves, any boiler or process heater specifically listed as an affected source in another MACT standard, temporary boilers, and blast furnace gas fuel-fired boilers and process heaters.

### *C. Emission Limits*

The emission limit for mercury in the existing large solid fuel subcategories has been written as 0.000009 lb/MMBtu (from 0.000007 lb/MMBtu at proposal).

### *D. Definitions Added or Revised*

The EPA has written the definitions of large, limited use, and small gaseous subcategories to include gaseous fuel-fired boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies.

The final rule also includes a definition of fuel type which is used in the fuel analysis compliance options. Fuel type means each category of fuels that share a common name of classification. Examples include, but are not limited to: bituminous coal, subbituminous coal, lignite, anthracite, biomass, construction/demolition material, salt water laden wood, creosote treated wood, tires, and residual oil. Individual fuel types received from different suppliers are not considered new fuel types except for construction/demolition material.

Construction/demolition material means waste building material that result from the construction or demolition operations on houses and commercial and industrial buildings.

Unadulterated wood, component of biomass, means wood or wood products that have not been painted, pigment-stained, or pressure treated with compounds such as chromate copper arsenate, pentachlorophenol, and creosote. Plywood, particle board, oriented strand board, and other types of wood products bound by glues and resins are included in this definition.

We have included a definition for temporary boiler to mean any gaseous or liquid fuel-fired boiler that is designed, and is capable of, being carried or moved from one location to another. A temporary boiler that remains at a location for more than 180 consecutive days is no longer considered to be a temporary boiler. Any temporary boiler that replaces a temporary boiler at a location and is intended to perform the same or similar function will be included in calculating the consecutive time period.

The final rule also contains a definition written for waste heat boiler that identifies waste heat boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat boiler as not being waste heat boilers, but are considered boilers and subject to the final rule.

### *E. Requirements for Sources in Subcategories Without Emission Limits or Work Practice Requirements*

In the final rule, we have clarified that sources in the existing large and limited use gaseous fuel subcategories, existing large and limited use liquid fuel subcategories, and new small liquid fuel subcategory that burn only distillate oil are only subject to the initial notification requirements in § 63.9(b) of subpart A of this part and are not required to submit as startup, shutdown, and malfunction (SSM) plan as part of their initial notification. We have written the final rule to state that sources in the existing small gaseous fuel, liquid fuel, and solid fuel subcategories and in the new small gaseous fuel subcategory are not subject to any requirements in the final rule or of subpart A of this part.

### *F. Carbon Monoxide Work Practice Emission Levels and Requirements*

The final rule provides revisions to the CO work practice emission levels. For new sources in the solid fuel subcategory, the work practice standard has been written to be corrected to 7 percent oxygen rather than 3 percent. Units in the gaseous and liquid fuel subcategories still have to correct to 3 percent oxygen.

The final rule also allows sources with heat input capacities greater than 10 MMBtu/hr but less than 100 MMBtu/hr to conduct initial and annual compliance tests to demonstrate compliance with the CO limit. Sources greater than 100 MMBtu/hr must still demonstrate compliance using CO continuous emission monitors (CEMS).

The final rule also does not allow you to calculate data average using data recorded during periods where your boiler or process heater is operating at less than 50 percent of its rated capacity, monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. You must use all data collected during all other periods in assessing compliance.

### *G. Fuel Analysis Option*

We have clarified the fuel analysis options in the final rule. You are not required to conduct performance tests for hydrogen chloride, mercury, or total selected metals if you demonstrate compliance with the hydrogen chloride, mercury, or total selected metals limits based on the fuel pollutant content. Your operating limit is then the emission limit of the applicable pollutant. You are not required to conduct emission tests.

If you demonstrate compliance with the HCl, mercury, or TSM limit by performance tests, then your operating limits are the operating limits of the control device (if used) and the fuel pollutant content of the fuel type/mixture burned. Units burning multiple fuel types are required to determine by fuel analysis, the fuel pollutant content of the fuel/mixture burned during the performance test.

The final rule specifies the testing and initial and continuous compliance requirements to be used when complying with the fuel analysis options. Fuel analysis tests for total chloride, gross calorific value, mercury, metal analysis, sample collection, and sample preparation are included in the final rule.


Attachment I
Attachment I

We have written the requirement to remove the need for conducting additional tests if you receive fuel from a new supplier. You are required to conduct another performance test, if you demonstrated compliance through performance testing, only when you burn a new fuel type or mixture and the results of recalculating the fuel pollutant content are higher than the level established during the initial performance test.

*H. Emissions Averaging*

We have included a compliance alternative in the final rule to allow emissions averaging between existing large solid fuel boilers. Compliance must be demonstrated on a 12-month rolling average basis, determined at the end of every month. If you elect to comply with the emissions averaging compliance alternative, you must use equations provided in the final rule to demonstrate that particulate matter or TSM, HCl, or mercury from all applicable units do not exceed the emission limits specified in the final rule. If you use this option, you must also develop and submit an implementation plan no later than 6 months before the date that the facility intends to demonstrate compliance.

*I. Opacity Limit*

At proposal, we required sources meeting the PM and mercury limits to determine site-specific opacity operating limits based on levels during the initial performance test. To demonstrate continuous compliance with the opacity limit, the opacity operating limits have been established to be 20 percent (based on 6-minute averages) except for one 6-minute period per hour of not more than 27 percent for existing sources and 10 percent (based on 1-hour block averages) for new sources.

*J. Operating Limit Determination*

The final rule defines maximum and minimum operating parameters that must be met. For sources complying with the alternative opacity requirement of establishing opacity limits during the initial performance test, the maximum opacity operating limit is 110 percent of the highest test-run average opacity measured according to the final rule during the most recent performance test demonstrating compliance with the applicable emission limit. For sources meeting the standards using scrubbers or ESP, the minimum pressure drop, scrubber effluent pH, scrubber flow rate, sorbent flow rate, voltage or amperage means 90 percent of the lowest test run average pressure drop, scrubber effluent pH, scrubber flow rate, sorbent flow rate, voltage or amperage measured according to the most recent performance test demonstrating compliance with the applicable emission limits.

The final rule clarifies that operation above the established maximum or below the established minimum operating parameters constitute a deviation of established operating parameters.

*K. Revision of Compliance Dates*

In § 63.7510, we have also written the date by which you have to complete a compliance demonstration to be 180 days after the compliance date instead of at the compliance date.

## IV. What Are the Responses to Significant Comments?

We received 218 public comment letters on the proposed rule. Complete summaries of all the comments and responses are found in the Response-to-Comments document (see **SUPPLEMENTARY INFORMATION** section).

*A. Applicability*

*Comment:* Many commenters requested that EPA exempt units that are not subject to emission limits or work practice requirements from monitoring, recordkeeping, and reporting requirements.

*Response:* Sources in subcategories that do not have any emission limitations and work practices are not required to keep records or reports other than the initial notification. This is appropriate because no reports other than the initial notification would apply to these units. The SSM plan is not necessary nor required for these units because § 63.6(e)(3) of subpart A of this part requires an affected source to develop an SSM plan for control equipment used to comply with the relevant standard. The proposed rule was not intended to require monitoring, recordkeeping, and reporting (including startup, shutdown, and malfunction plans), other than the initial notification for sources not subject to an emission limit. We have clarified this decision in the final rule. We have also determined that existing small units and new small gaseous fuel units, which are not subject to emission limits or work practices in this standard, and which are also not subject to such requirements in any other Federal regulation, should also not have to provide an initial notification. These small sources are generally gas-fired and since they have minimal emissions, they are usually considered as insignificant emission units by State permitting agencies.

*Comment:* Several commenters requested that EPA specifically exclude portable/transportable units from the final rule. The commenters stated that facilities periodically use these units to supply or supplement other site steam supplies when there is a mechanical problem that takes a unit out of service or during planned outages. The commenters added that because they are used on a limited basis, portable units are not fully integrated with site control systems and most portable/transportable units are owned by a rental company and may not be operated by the facility owner/operator.

*Response:* We agree with the commenters that temporary/portable units are used only on a limited basis and are not integrated into a facility's control system. These units are gas or oil fired units. Units in the existing gaseous or liquid subcategories are not subject to emission limits or work practice standards. Consequently, we have decided that temporary/portable units are not subject to the final rule. We have added a definition for temporary boiler to mean any gaseous or liquid fuel-fired boiler that is designed, and is capable of, being carried or moved from one location to another. A temporary boiler that remains at a location for more than 180 consecutive days is no longer considered to be a temporary boiler. Any temporary boiler that replaces a temporary boiler at a location and is intended to perform the same or similar function will be included in calculating the consecutive time period. We chose the 180-day time frame because that is the length of time a new source has after startup to conduct the initial performance test.

*Comment:* Several commenters requested EPA provide a lower size cut-off for the small unit subcategory. Several commenters argued that the benefits from requiring smaller units to install controls would be minimal given the overall monitoring, recordkeeping, and reporting burden. Several commenters also requested lower size cutoffs to make the final rule similar to others established by EPA (*e.g.,* NSPS Nitrogen Oxide ($NO_X$) SIP Call). Several commenters noted several recent court decisions in which the court has decided that a *de minimis* exemption is appropriate since the regulation of small sources would yield a gain of trivial or no value yet would impose significant regulatory burden. A wide range of lower size cutoffs were suggested. However, one commenter said that EPA should not develop *de minimis* exemptions. The commenter noted that *de minimis* exemptions do not spare EPA's resources for use on other

purposes and are not justified by reductions in industry burden or inconvenience. The commenter noted that EPA did not establish any administrative record justifying the *de minimis* exemption.

*Response:* We have reviewed the commenters arguments and all the data provided in the comment letters. There is no justification for developing a lower size cut-off or *de minimis* level. We would also note the designation of large and small subcategories was not based solely on size of the unit. Large and small subcategories were developed because small units less than 10 MMBtu/hr heat input typically use a combustor design that is not common in larger units. Large boilers generally use the watertube combustor design. The design of the boiler or process heater will influence the completeness of the combustion process which will influence the formation of organic HAP emissions. Additionally, the vast majority of small units use natural gas as fuel. The EPA chose to develop large and small subcategories to account for these differences and their affect on the type of emissions. The cut-off between the large and small subcategories of 10 MMBtu/hr was based on typical sizes for fire tube units, and also when considering cut-offs in State and Federal rules. Lastly, we would like to note that the final rule does not impose any requirements for existing units in any of the small subcategories.

*Comment:* Many commenters asked EPA to clarify which sources are not covered by the final rule.

*Response:* We have included an extensive list of sources that are not subject to the final rule. The final rule clarifies that boilers and process heaters that are included as part of the affected source in any other NESHAP are not subject to the NESHAP for industrial boilers and process heaters. However, we do not exclude boilers and process heaters that are used as control devices unless they are specifically considered part of any other NESHAP's definition of affected source. Incinerators, thermal oxidizers, and flares do not generally fall under the definition of a boiler or process heater and would not be subject to the final rule. The final rule excludes waste heat boilers and waste heat boilers with supplemental firing, as long as the supplemental firing does not provide more than 50 percent of the waste heat boiler's heat input. If your waste heat boiler does receive 50 percent of its total heat input from supplemental firing, it would be subject to the NESHAP for industrial boilers unless it is subject to any other NESHAP. We specifically exclude comfort heaters from the final rule. However, this exclusion does not include boilers used to make steam or heated water for comfort heat. If your boiler meets the definition of a hot water heater, then it would not be subject to the final rule. However, if the temperature, pressure, or capacity specifications of your boiler exceed the criteria specified for hot water heaters, then your boiler would be subject to the final rule. We recognize the unique properties of blast furnace gas having high CO concentrations and none to almost no organic compounds. Consequently, we agree that for these sources CO is not a surrogate for organic HAP emissions since CO is the primary component of blast furnace gas and virtually no organic HAP are generated in its combustion. As a result, we exclude from the final rule units that receive 90 percent or more of their total heat input from blast furnace gas. In addition, research and development (R&D) operations are not subject to the final rule. However, units that only provide steam to a process or for heating at a research and development facility are still subject to the final rule. This should address the commenters' concern over overlapping applicability.

*Comment:* Several commenters suggested that EPA revise the proposed definition of affected source to be consistent with the definition of affected source in the General Provisions. The definition in the rule as proposed is much more narrow than that in the General Provisions, even though the General Provisions states that each standard will redefine affected source based on published justification as to why the definition would result in significant administration, practical or implementation problems. The commenters argued that EPA failed to provide justification for the proposed definition of affected source, which is narrower than the definition of affected source in the General Provisions.

*Response:* We agree with the commenters and in the final rule have incorporated the broader definition of affected source from the revised General Provisions. The General Provisions define the affected source as ''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 * * *'' Therefore, the definition of existing affected source in the final rule is the collection of existing industrial, commercial, or institutional boilers and process heaters within a subcategory located at a major source of HAP emissions.

*B. Format*

*Comment:* Several commenters opposed using one or more surrogates for the HAP regulated. Some commenters stated that EPA must set emission standards for each HAP emitted by this category. One commenter explained that the use of surrogates is acceptable if: (1) The surrogates reflect the actual emissions of the represented pollutants, (2) the emission limit set for the surrogate is consistent with the emission limit calculated for the represented pollutants, and (3) the surrogates have substantially the same properties as the represented pollutants and is controlled by the same mechanism. Based on these criteria, the commenter argued that EPA's selection of surrogates is inadequate. One commenter specifically contended that CO is not an adequate surrogate for dioxin because dioxin emissions are affected by the temperature of the emissions, how quickly the temperature is lowered, and the levels of chlorine in the materials that are being combusted and control devices. Other commenters supported the use of surrogates to represent the HAP list.

*Response:* As discussed in the proposal preamble, the use of surrogates for the HAP regulated is appropriate. Because of the large number of HAP potentially present, the disparity in the quality and quantity of the emissions information available, particularly for different fuel types, we chose to group HAP into four categories: Mercury, non-mercury metallic HAP, inorganic HAP, and organic HAP. In general, the pollutants within each group have similar characteristics and can be controlled with the same techniques. We then chose compounds that could be used as surrogates for all the compounds in each pollutant category. We have used surrogates in previous NESHAP as a technique to reduce the performance testing costs, and thus the use of surrogates is appropriate in the final rule.

For inorganic HAP, we chose to use HCl as a surrogate. The emissions test information available to us indicated that the primary inorganic HAP emitted from boilers and process heaters is HCl. Much smaller amounts of hydrogen fluoride and chlorine are emitted. Control technologies that would reduce HCl would also control other inorganic HAP. Additionally, we had limited emissions information for other inorganic HAP. By focusing on HCl, we have achieved control of the largest emitted and most widely emitted HAP,

and control of HCl would also constitute control of other inorganic HAP.

For non-mercury metallic HAP, we chose to use PM as a surrogate. Most, if not all, non-mercury metallic HAP emitted from combustion sources will appear on the flue gas fly-ash. Therefore, the same control technology that would be used to control fly-ash PM will control non-mercury metallic HAP. A review of data in the emission database for PM control devices having both inlet and outlet emissions results shows control efficiencies for each non-mercury metallic HAP similar to PM. Particulate matter was also chosen instead of a specific metallic HAP because all fuels do not emit the same type and amount of metallic HAP, but most generally emit PM that includes some amount and combination of metallic HAP. We maintain that particulate matter reflects the emissions of non-mercury metallic HAP as these compounds usually comprise a percentage of the emitted particulate matter. Since the NESHAP program is technology-based, the technologies that have been developed and implemented to control particulate matter, also control non-mercury metallic HAP. Furthermore, since non-mercury metallic HAP is a component of particulate matter, we can use particulate matter as a surrogate for the purposes of the final rule.

While we did use PM as a surrogate for non-mercury metallic HAP, we also provided an alternative total selected metals emission limit based on the sum of the emissions of the eight most common and largest emitted metallic HAP compounds from boilers and process heaters. Again, a total selected metals number was used instead of limits for each individual metallic HAP because sufficient information was not available for each metallic HAP for every fuel type. However, a total metals number could be calculated for every fuel type.

We realize that mercury emissions can exist in different forms depending on combustion conditions and concentrations of other compounds. That is why we have mercury as a separate pollutant category in the final rule and do not provide for a surrogate.

For organic HAP, we chose to use CO as a surrogate to represent the variety of organic compounds emitted from the various fuels burned. Both organic HAP and CO emissions are the result of incomplete combustion of the fuel. Because CO is a good indicator of incomplete combustion, there is a direct correlation between CO emissions and minimizing organic HAP emissions. The extent to which CO and HAP emissions are related can also depend on site-specific operating conditions for each boiler or process heater. This site-specific nature may result in various degrees of correlation between CO and organic HAP emissions, but it is proven that reductions in CO emissions result in a reduction of organic HAP emissions. The control methods for both CO and organic HAP are the same, *i.e.*, complete combustion. This result would not have been different if MACT floor analyses were conducted for specific organic HAP or for a surrogate compound such as CO. For boilers and process heaters, we have determined that CO is a reasonable indicator of incomplete combustion. Also, we did not set emission limits for each specific organic HAP because we lacked sufficient information for many of the organic HAP for all the fuels combusted. We acknowledge that there are many factors that affect the formation of dioxin, but we also recognize that dioxin can be formed in both the combustion unit and downstream in the associated PM control device. Minimizing organic HAP emissions can limit the formation of dioxin in the combustion unit. We reviewed all the good combustion practice (GCP) information available in the boiler population database and determined that no floor level of control exists, except for limiting CO emissions, such that GCP could be incorporated into the standard. One control technique, controlling inlet temperature to the PM control device, that has demonstrated controlling downstream formation of dioxins in other source categories (*e.g.,* municipal waste combustors) was analyzed for industrial boilers. In all cases, no increase in dioxins emissions were indicated across the PM control device even at high inlet temperatures. However, we requested comment on controls that would achieve reductions of organic HAP, including any additional data that might be available. The EPA did not receive any additional supporting information or data. Additionally, more stringent options beyond the floor level of control were evaluated, but were determined to be too costly and emissions reductions associated with the options could not be evaluated because no information was available that indicated a relationship between the GCP and emission reduction of organics (including dioxin).

*C. Compliance Schedule*

*Comment:* Many commenters requested that EPA provide an additional year to comply with the final rule. Commenters explained that the time lines associated with permitting, capital appropriation, project bid, and construction activities are significant and that the 3-year deadline would not provide adequate time for the estimated 3,730 existing units at affected sources to be retrofitted as necessary to meet the new MACT standards. The commenters added that sources subject to the final rule would also be competing with sources that are subject to other combustion rules for the same vendors.

*Response:* The EPA disagrees with the commenters that the 3-year compliance deadline is too short considering the number of sources that will be competing for the resources and materials from engineering consultants, equipment vendors, construction contractors, financial institutions, and other critical suppliers. The EPA recognizes the possibility that these same consultants, vendors, etc., may also be used to comply with the utility MACT standard. However, we know that many sources will not need to install controls. As a result, since not everyone will need more than 3 years to actually install controls, the final rule does not allow an extra year for existing sources to comply with the final rule. Section 112(i)(3)(B) of the CAA allows EPA or the permit authority, on a case-by-case basis, to grant an extension permitting an existing source up to 1 additional year to comply with standards if such additional period is necessary for the installation of controls. This provision is sufficient for those sources where the 3-year deadline would not provide adequate time to retrofit as necessary to comply with the requirements of the standard. We anticipate that a number of units will seek and be granted the 1-year extension since construction of needed control devices could be constrained by the potential impacts on delays in obtaining funding and potential labor and equipment shortages.

*D. Subcategorization*

*Comment:* Two commenters said that EPA does not have the authority to develop subcategories for the purpose of reducing compliance costs or weakening the standard. The commenters also noted that costs should not be considered in subcategorizing and establishing the MACT floor. One commenter explained that EPA has failed to present a persuasive rationale for the establishment of new or different subcategories, such as a wood-fired unit subcategory and noted that EPA cannot subcategorize based on fuel type, cost, level of emissions reductions, control technology applicability or effectiveness, achievability of emissions reductions, or health risks. The

commenter argued that EPA cannot subcategorize to reduce cost because that would change CAA section 112 standards into a cost-benefit program and that is not legally defensible. The commenter noted that the DC Circuit court recently held that, when confronted with the cost argument, costs are not relevant when determining MACT floors.

*Response:* If the commenters are referring to the request for comment regarding further subcategorizations than what was proposed, the EPA agrees that there is no justification for any further subcategories. The final rule maintains the subcategories presented in the proposed rule. If the commenters are referring to subcategories presented in the proposed rule, section 112(d)(1) of the CAA states ''the Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory'' in establishing emission standards. Thus, we have discretion in determining appropriate subcategories based on classes, types, and sizes of sources. We used this discretion in developing subcategories for the industrial, commercial, and institutional boilers and process heaters source category. Through subcategorization, we are able to define subsets of similar emission sources within a source category if differences in emissions characteristics, processes, air pollution control device (APCD) viability, or opportunities for pollution prevention exist within the source category. We first subcategorized boilers and process heaters based on the physical state of the fuel (solid, liquid, or gaseous), which will affect the type of pollutants emitted and controls applicable, and the design and operation of the boiler, which influences the formation of organic HAP emissions. We then further subcategorized boilers and process heaters based on size. Our distinctions are based on technological differences in the equipment. For example, small units are package units typically having capacities less than 10 million Btu per hour heat input and use a combustor design which is not common in large units. A review of the information gathered on boilers also shows that a number of units operate as backup, emergency, or peaking units that operate infrequently. The boiler database indicates that these infrequently operated units typically operate 10 percent of the year or less. These limited use boilers, when called upon to operate, must respond without failure and without lengthy periods of startup. Since their use and operation are different compared to typical industrial, commercial, and institutional boilers, we decided that such limited use units should have their own subcategory.

Neither the subcategories or MACT floor analysis was conducted considering costs, either in the proposed rule or in the final rule.

*Comment:* Many commenters requested EPA to develop a separate subcategory for small municipal electric utilities. Reasons for creating a subcategory for small electrical utility steam generating units included: (1) EPA has authority to establish such a subcategory of sources to be regulated under CAA section 112 and is meant to address control costs and feasibility, (2) past EPA practice supports subcategorization in this instance, (3) differences between municipal utility boilers and non-utility boilers justify subcategorization, and (4) EPA cannot properly account for cost and energy concerns mandated in the MACT standard setting process without subcategorization for municipal utility boilers. The commenters added that the unique physical attributes of municipally-owned utilities, as well as their significant and direct impact on municipal tax base, support a separate subcategorization.

*Response:* The EPA sees no technical or legal justification for creating a separate subcategory for municipal utilities. Boilers at municipal utilities fire the same type of fuels, have the same type of combustor designs, and can use the same type of controls as other units in the large subcategory. Consequently, the subcategories that are in the final rule are the same as at proposal. We would also like to clarify that subcategories were developed based on combustor design and not on industrial sector. Also, had we gone beyond-the-floor, we would have considered cost in the final determination. Since we did not go beyond-the-floor level of control, cost did not play a role in the analysis.

*Comment:* Many commenters requested EPA add a subcategory for medium sized boilers and process heaters.

*Response:* The EPA does not see justification for creating a separate subcategory for medium sized units. The designation of large and small subcategories was not based

*Response:* The EPA does not see justification for creating a separate subcategory for medium sized units. The designation of large and small subcategories was not based solely on size of the unit. Large and small subcategories were developed because small units less than 10 MMBtu/hr heat input typically use a combustor design that is not common in larger units. Large boilers generally use the watertube combustor design. The design of the boiler or process heater will influence the completeness of the combustion process which will influence the formation of organic HAP emissions. The EPA developed large and small subcategories to account for these differences and their affect on the type of emissions. The proposed size break between the large and small subcategories of 10 MMBtu/hr was based on typical sizes for firetube and cast iron units and considering cut-offs in State and Federal permitting requirements and rules. The EPA does not view medium sized boilers as being different than larger boilers. Combustor designs, applicable air pollution control devices, fuels used, and operation are similar for large and medium. While actual pollution controls used and monitoring equipment may be different, the CAA does not allow EPA to subcategorize on these parameters.

Section 112(d)(1) of the CAA allows EPA to distinguish among classes, types, and size in establishing MACT standards. As indicated above, at proposal, the size break selected between large and small units of 10 MMBtu/hr was based on typical sizes for fire tube units and also considering cut-offs in State and Federal permitting requirements and emission rules. Based on comments, we have examined information in the docket regarding the population and characteristics of industrial, commercial, and institutional boilers. It is correct that boilers below 10 MMBtu/hr are generally not required to be permitted and are either firetube or cast iron boilers. Based on review of the thousands of responses received on an information collection request (ICR) conducted during the rulemaking process, it is obvious and appropriate that the distinction between small and large units needs to include size. It is apparent from the ICR responses that facilities know the size of their units but do not generally know the exact type of the units. Many responses indicated that the boiler was both firetube and watertube. Many more responses did not list the boiler type at all. Therefore, the inclusion of size in the definition of small and large subcategories is appropriate.

Based on review of the 1979 EPA document on boiler population and the ICR survey database, the appropriate size break between small and large type units is 10 MMBtu/hr. In the EPA document, 99 percent of the boilers listed as being below 10 MMbtu/hr are either firetube or cast iron. Since these trends are from a 25 year old report, we


Attachment I
Attachment I

analyzed our ICR survey database which confirmed these findings.

*E. MACT Floor*

*Comment*: Several commenters supported EPA's finding that the MACT floor level for existing gas and liquid fuel-fired units is no emissions reductions. Other commenters contended that EPA has legal authority to set the MACT floor as ''no emissions control'' for particular HAP categories. A commenter noted that EPA has a clear statutory obligation to set emission standards for each listed HAP. One commenter specifically challenged EPA's determination that ''no control'' is the MACT floor for organic pollutants. The commenter noted that the U.S. Court of Appeals for the DC Circuit had squarely held, in the National Lime case, that EPA was not allowed to make a ''no control'' determination for a pollutant emitted by a listed category of sources.

*Response*: First, the MACT floor methodology we use is consistent with DC Circuit's holding in the National Lime case. The DC Circuit held that by focusing only on technology EPA ignored the directive in CAA section 112(d)(2) to consider pollution-reducing measures including process changes and substitution of materials.

The EPA has ample legal authority to set the MACT floor at ''no emissions reductions.'' This is because the statute requires EPA to set standards that are duplicable by others. In the National Lime case, the court threw out EPA's determination of a no control floor because it was based only on a control technology approach. The court stated that EPA must look at what the best performers achieve, regardless of how they achieve it. Therefore, our determination that the MACT floor for certain subcategories or HAP is ''no emissions reductions'' is lawful because we determined that the best-performing sources were not achieving emissions reductions through the use of an emission control system and there were no other appropriate methods by which boilers and process heaters could reduce HAP emissions. Furthermore, setting emissions standards on the basis of actual emissions data alone where facilities have no way of controlling their HAP emissions would contravene the plain statutory language as well as Congressional intent that affected sources not be forced to shut down.

The EPA agrees with the commenter that all factors which might control HAP emissions must be considered in making a floor determination for each subcategory. However, EPA disagrees that it must express the floor as a quantitative emission level in those instances where the source on which the floor determination is based has not adopted or implemented any measure that would reduce emissions.

A detailed discussion of the MACT floor methodology is presented in the memorandum ''MACT Floor Analysis for New and Existing Sources in the Industrial, Commercial, and Institutional Boilers and Process Heaters Source Categories'' in the docket. In summary, we considered several approaches to identifying MACT floor for existing industrial, commercial, and institutional boilers and process heaters. Based on recent court decisions, in most cases the most acceptable approach for determining the MACT floor is likely to involve primarily the consideration of available emissions test data. However, after review of the available HAP emission test data, we determined that it was inappropriate to use this MACT floor approach to establish emission limits for boilers and process heaters. The main problem with using only the HAP emissions data is that, based on the test data alone, uncontrolled units (or units with low efficiency add-on controls) were frequently identified as being among the best performing 12 percent of sources in a subcategory, while many units with high efficiency controls were not. However, these uncontrolled or poorly controlled units are not truly among the best controlled units in the category. Rather, the emissions from these units are relatively low because of particular characteristics of the fuel that they burn, that can not reasonably be replicated by other units in the category or subcategory. A review of fuel analyses indicate that the concentration of HAP (metals, HCl, mercury) vary greatly, not only between fuel types, but also within each fuel type. Therefore, a unit without any add-on controls, but burning a fuel containing lower amounts of HAP, can have emission levels that are lower than the emissions from a unit with the best available add-on controls. If only the available HAP emissions data are used, the resulting MACT floor levels would, in most cases, be unachievable for many, if not most, existing units, even those that employ the most effective available emission control technology. Another problem with using only emissions data is that there is very limited or no HAP emissions information available to the Agency for the subcategories. This is consistent with the fact that units in these source categories have not historically been required to test for HAP emissions.

We also considered using HAP emission limits contained in State regulations and permits as a surrogate for actual emission data in order to identify the emissions levels from the best performing units in the category for purposes of establishing MACT standards. However, we found no State regulations or State permits which specifically limit HAP emissions from these sources.

Consequently, we concluded that the most appropriate approach for determining MACT floors for boilers and process heaters is to look at the control options used by the units within each subcategory in order to identify the best performing units. Information was available regarding the emission control options employed by the population of boilers identified by the EPA. We considered several possible control techniques (*i.e.*, factors that influence emissions), including fuel substitution, process changes and work practices, and add-on control technologies.

We first considered whether fuel switching would be an appropriate control option for sources in each subcategory. We considered the feasibility of both fuel switching to other fuels used in the subcategory and to fuels from other subcategories. This consideration included determining whether switching fuels would achieve lower HAP emissions. A second consideration was whether fuel switching could be technically achieved by boilers and process heaters in the subcategory considering the existing design of boilers and process heaters. We also considered the availability of various types of fuel. After considering these factors, we determined that fuel switching was not an appropriate control technology for purposes of determining the MACT floor level of control for any subcategory. This decision was based on the overall effect of fuel switching on HAP emissions, technical and design considerations, and concerns about fuel availability.

We also concluded that process changes or work practices were not appropriate criteria for identifying the MACT floor level of control for units in the boilers and process heaters category. The HAP emissions from boilers and process heaters are either fuel dependent (*i.e.*, mercury, metals, and inorganic HAP) or combustion related (*i.e.*, organic HAP). Fuel dependent HAP are typically controlled by removing them from the flue gas after combustion. Therefore, they are not affected by the operation of the boiler or process heater. Consequently, process changes would be ineffective in reducing these fuel-related HAP emissions.

On the other hand, organic HAP can be formed from incomplete combustion


Attachment I
Attachment I

of the fuel. Good combustion practice (GCP), in terms of boilers and process heaters, could be defined as the system design and work practices expected to minimize organic HAP emissions. While few sources in EPA's database specifically reported using good combustion practices, the data that we have suggests that boilers and process heaters within each subcategory might use any of a wide variety of different work practices, depending on the characteristics of the individual unit. The lack of information, and lack of a uniform approach to assuring combustion efficiency, is not surprising given the extreme diversity of boilers and process heaters, and given the fact that no applicable Federal standards, and most applicable State standards, do not include work practice requirements for boilers and process heaters. Even those States that do have such requirements do not require the same work practices. For example, CO emissions are generally a good indicator of incomplete combustion, and, therefore, low CO emissions might reflect good combustion practices. (As discussed in the proposal, CO is considered a surrogate for organic HAP emissions.) Therefore, we considered whether existing CO emission limits might be used to establish good combustion practice standards for boilers and process heaters. We reviewed State regulations applicable to boilers and process heaters, and then for each subcategory we matched the applicability of State CO emission limits with information on the locations and characteristics of the boilers and process heaters in the population database. Ultimately, we found that very few units (less than 6 percent) in any subcategory were subject to CO emission limits. We concluded that this information did not allow EPA to identify a level of performance that was representative of good combustion across the various units in any subcategory. Therefore, we did not establish a CO emission limit, as a surrogate for organic HAP emissions, as a part of the MACT floor for existing units. However, we have considered the appropriateness of such requirements in the context of evaluation possible beyond-the-floor options.

In general, boilers and process heaters are designed for good combustion. Facilities have an economic incentive to ensure that fuel is not wasted, and the combustion device operates properly and is appropriately maintained. In fact, existing boilers and process heaters are used typically as high efficiency control devices to control (reduce) emission streams containing organic HAP compounds from various process operations. Therefore, EPA's inability to establish a combustion practice requirement as part of the MACT floor for existing sources in this category should not reduce the incentive for owners and operators to run their boilers and process heaters at top efficiency.

As a result of the evaluation of the feasibility of establishing emission limits based on control techniques such as fuel switching and good combustion practices, we concluded that add-on control technology should be the primary factor for purposes of identifying the best controlled units within each subcategory of boilers and process heaters. We identified the types of air pollution control techniques currently used. We ranked those controls according to their effectiveness in removing the different HAP categories of pollutants; including metallic HAP and PM, inorganic HAP such as acid gases, mercury, and organic HAP. We then listed all the boilers and process heaters in the population database in order of decreasing control device effectiveness within each subcategory for each pollutant type. Then we identified the top 12 percent of units within each category based on this ranking, and determined what kind of emission control technology, or combination of technologies, the units in the top 12 percent employed. Finally, we looked at the emissions test data from boilers and process heaters that used the same control technology, or technologies, as the units in the top 12 percent to estimate the average emissions limitation achieved by these units.

This approach reasonably ensures that the emission limit selected as the MACT floor adequately represents the average level of control actually achieved by units in the top 12 percent. The analysis of the measured emissions from units representative of the top 12 percent is reasonably designed to provide a meaningful estimate of the average performance, or central tendency, of the best controlled 12 percent of units in a given subcategory. For existing subcategories where less than 12 percent of units in the subcategory use any type of control technology, we looked to see if we could estimate the central tendency of the best controlled units by looking at the unit occupying the median point in the top 12 percent (the unit at the 94th percentile). If the median unit of the top 12 percent is using some control technology, we might use the measured emission performance of that individual unit as the basis for estimating an appropriate average level of control of the top 12 percent. For subcategories where less than 6 percent of the units in a HAP grouping used controls or limited emissions, the median unit for that HAP grouping reflects no emissions reductions. Therefore, in these circumstances, EPA has appropriately established the MACT floor emission levels for these sources as no emission reduction.

*Comment:* Many commenters opposed EPA using emissions data from units in the large subcategory to develop emission limits for units in the small or limited use subcategories. Some commenters stated that it was not appropriate to assume that emissions rates achievable by large units are achievable by small units, even the best controlled units. Other commenters argued that the use of large unit data in MACT determinations for other subcategories would defeat the purpose of the subcategorization and violate the requirements of CAA section 112 because the use of this data does not represent sources in the relevant category or subcategory.

*Response:* The EPA disagrees with the commenters and maintains that it has conducted the MACT floor analysis appropriately. Section 112(d) of the CAA requires us to establish emission limits for new sources based on the performance of the best-controlled similar source. The CAA does not specify that the similar source must be within the same source category or subcategory. To the contrary, our interpretation of section 112(d) is that we are obligated to consider similar sources from other source categories or subcategories in determining the best-controlled similar source for establishing MACT for new sources.

For new limited use and small units, we concluded that the best-controlled similar sources are found in the large subcategory. First, EPA determined the control technology used by the best controlled sources in the subcategory. For example, only units in the population database less than 10 MMBtu/hr (and not in the limited use subcategory) were used to determine the MACT floor control technology for units in the small subcategories. Second, EPA used information in the emissions test database to establish the emission level associated with the MACT floor control technology. The emissions test database did not contain test data for limited use or small boilers and process heaters. Section 112(d) of the CAA requires EPA to use information from similar sources to set the MACT floor. Such sources may not be in the same subcategory. Although the units in the small and


Attachment I
Attachment I

limited use subcategories are different enough to warrant their own subcategory (*i.e.*, different purposes and operation), emissions of the specific types of HAP for which limits are being proposed are expected to be related more to the type of fuel burned and the type of control used, than to unit operation. Consequently, EPA determined that emissions information from large fuel-fired units could be used to establish MACT floor levels for the small and limited use subcategories because the fuels and controls are similar. The proposal preamble requested additional information from commenters to refine/revise the approach if necessary. No commenters provided emissions information for limited use or small subcategory boilers or process heaters.

*Comment:* Several commenters requested that EPA account for variability in fuel composition as MACT floors are established and to provide adequate allowances for inherent fuel supply variability. Some commenters argued that there is no flexibility in the rule to account for this variability and noted that coal composition can vary by location and also within an individual seam.

*Response:* As described in the memorandum ''Revised MACT Floor Analysis for the Industrial, Commercial, and Institutional Boilers and Process Heater National Emission Standards for Hazardous Air Pollutants Based on Public Comments'' in the docket, the calculation of numerical emission limits was a two-step analysis. The first step involved calculating a numerical average of the appropriate subset of emission test data. The second step involved generating and applying an appropriate variability factor to account for unavoidable variations in emissions due to uncontrollable variations in fuel characteristics and ordinary operational variability. Accounting for variability is appropriate in order to generate a more accurate estimation of the actual, long term, performance of a source (*e.g.*, the source occupying the median point in the top 12 percent). An emission test provides a momentary snapshot, not an estimation of continuous performance. In order to translate the former into the latter, we must account for that ordinary and unavoidable variability that the source is likely to experience over time. This gives us a more reasonable estimate of the actual level of emissions control that the unit is achieving. The EPA contends that by considering the variability of emissions information, we have indirectly incorporated variability in fuel, operating conditions, and sampling and analytical conditions because these parameters vary from emission tests conducted from one unit to another, and even within each test set of three measurements at a single unit. The most elementary measure of variation is range. Range is defined as the difference between the largest and smallest values. This is the variability methodology used in the proposed rule. That is, for each unit with multiple emissions tests conducted over time, the variability was calculated by dividing the highest three-run test result by the lowest three-run test result. The overall variability was calculated by averaging all the individual unit variability factors. This overall variability factor was multiplied by the overall average emission level to derive a MACT floor limit representative of the average emission limitation achieved by the top 12 percent of units. This approach adequately accounts for inherent fuel supply variability. Based on comments, EPA did conduct a more robust statistical analysis (t-test) of the mercury emissions data used in the MACT floor analysis to identify the 97.5th percent confidence limit. This analysis provided similar results to the variability analysis conducted in the proposed rule. Consequently, EPA decided not to change its variability methodology. A detailed discussion of the statistical analysis conducted is provided in the memorandum ''Statistical Analysis of Mercury Test Data Variability in Response to Public Comments on Determination of the MACT Floor for Mercury Emissions'' in the docket.

*Comment:* Several commenters supported EPA's finding that the MACT floor level of control for existing gaseous and liquid fuel units is no control. Other commenters noted that EPA has a clear statutory obligation to set emission standards for each listed HAP (the commenter cited legal briefs). One commenter specifically challenged EPA's determination of the MACT floor for organic pollutants. The commenter explained that EPA should rank the units for which emissions data is available according to the best performing units, not based on the add-on control level of 6 percent of the total population. The commenter noted that the U.S. Court of Appeals for the DC Circuit had squarely held, in the National Lime case, that EPA was not allowed to make a ''no control'' determination for a pollutant emitted by a listed category of sources.

*Response:* The EPA agrees that all factors which might control HAP emissions must be considered in making a floor determination for each subcategory. However, EPA disagrees that it must express the floor as a quantitative emission level in those instances where the sources on which the floor determination is based has not adopted or implemented any measure that would reduce emissions. For several subcategories and certain HAP, EPA has not identified any adjustments or other operational modifications that would materially reduce emissions by these units, and EPA had determined that no add-on controls are presently in use. In these circumstances, EPA has established appropriately the MACT floors for these sources as no emission reduction.

*Comment:* One commenter pointed out that the variability factor used to make the calculated MACT floor less stringent is not allowed by section 112 of the CAA. The commenter mentioned that the variability factors are not consistent, as one factor considers the fuel variability and the other factor considers the test data variability.

*Response:* Section 112(d)(2) of the CAA requires that emissions standards promulgated shall require the maximum degree of reductions in emissions that the EPA Administrator, taking into consideration the costs of achieving such emission reduction, determines is achievable for new and existing sources in the subcategory to which such emission standards applies. Accounting for variability is appropriate in order to generate a more accurate estimation of the actual, long term, performance of a source (*e.g.*, the source occupying the median point in the top 12 percent). An emission test provides a momentary snapshot, not an estimation of continuous performance. In order to translate the former into the latter, we must account for that ordinary and unavoidable variability that the source is like to experience over time. This give us a more reasonable estimate of the actual level of emissions control that the unit is achieving. As such, due to variations in fuel burned, and ordinary operational variability any emission limit set from a point source measurement alone may not be indicative of normal emissions or operations of the unit. Attempting to base a standard (either a floor standard, or a beyond-the-floor standard) solely on point measurements would lead to unachievable standards for all sources. Limits set by EPA must be achieved at all times, and it is important that the MACT floor limit adequately account for the normal and unavoidable variability in the process and in the operation of the control device.

Variability was assessed two ways. For existing subcategories, variability in emissions information was used to develop variability factors for all


Attachment I
Attachment I

subcategories where emissions information was available. Variability in fuel content was used only in situations regarding determining the achievable MACT floor level for new sources from the emission test result on the best controlled similar source. This approach is appropriate since the main uncertainty associated with the emission test result from the best controlled similar source is fuel variability. Corresponding fuel analysis results were not available for the emissions test results from the best controlled similar source. Whereas, the average emission level of the best 12 percent of the units has, besides fuel variability, the uncertainty associated with operational and design variability of the various control devices installed on units that represent the best 12 percent of the units. For example, available fuel analysis information shows that mercury content of coal varies by a factor of 12.54. Dividing the highest mercury emission test result by the lowest mercury test results from coal-fired units included in units that represent the best 12 percent results in a variability factor of 20. Therefore, we concluded that fuel availability was inherently considered in the MACT floor analysis approach used for existing subcategories.

*Comment:* Many commenters requested that EPA revise the MACT floor methodology for mercury emission limits. The commenters contended that the variability factor was calculated inappropriately. Other commenters stated that EPA should account for variability in fuel composition in the MACT floor analysis. Other commenters expressed concern that the floor level of control was based on fabric filters, which has not been proven at all sources to reduce mercury.

*Response:* As discussed in the proposal preamble, the MACT floor analysis for mercury was based on a two step process. First the percentage of units with control technologies that could achieve mercury emissions reductions was determined using the boiler population databases. If the control technology analysis indicated that at least 12 percent of sources in the subcategory used a control device that could achieve mercury emissions reductions, then the control technology present at the median (6th percentile) was identified as the MACT floor control technology. The MACT floor level of control for mercury was identified as a fabric filter. The control effectiveness of fabric filters was based on emissions information for utility boilers that indicated that mercury emissions reductions were being achieved with this technology. In this case, we could use control efficiency information from another similar source category to supplement the information available in this source category because of the similarity in fuel burned, combustor type, and control methodology and operation. We maintain that fabric filters are still the appropriate level of control for the MACT floor.

Second, the emission limit associated with the MACT floor control technology was calculated using emissions information for units in the subcategory, whenever possible. For most of the subcategories developed, emissions information was adequate. Only for the emission limit for new source liquids and the variability factor for new source solids was fuel pollutant content incorporated into the MACT floor analyses. The mercury fuel content of coal from the utility industry was used in developing the variability factors for new solid fired units. This was done because mercury emissions are dependent on the quantity of mercury in the fuel burned. Coal available to utilities and industrial boilers and process heaters is expected to be similar, and coal is the solid fuel that is routinely used in such units that has generally the greatest degree of HAP variability. We maintain that the utility database used at proposal to develop the variability factor for new sources was adequate in establishing the MACT floor emission limit.

The EPA recognizes that the mercury emissions database for industrial boilers is limited. However, EPA is directed by the CAA to develop standards for sources using whatever data is available. Prior to proposal and during the Industrial Combustion Coordinated Rulemaking (ICCR) process, EPA conducted a thorough search for HAP emission test reports. This search was supported by industry, trade groups, and States. For criteria pollutants, such as PM, substantial emission information was available and gathered. For mercury and other HAP, this was not the case. Industrial boilers have not generally been required to test for HAP emissions. In the proposed rule, EPA requested commenters to provide additional emissions information. However, only one source provided any additional mercury emissions data. This information (test results from three additional coal-fired industrial boilers) was used to revise the mercury emission limit for existing sources. We also reviewed the mercury emission database used to develop the MACT floor emission limit for existing sources. After review, we determined that a revision to the variability factor was appropriate. The additional data and the revised variability factor was used to re-calculate the mercury emission limit to be 0.000009 lb/MMBtu (from 0.000007 lb/MMBtu at proposal). A detailed discussion of the revised MACT floor analysis conducted is provided in the memorandum ''Revised MACT Floor Analysis for the Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants Based on Public Comments'' in the docket.

Variability of the emissions data were incorporated into the final emission limits. The EPA contends that by considering the variability of emissions information, we have indirectly incorporated variability in fuel, operating conditions, and sampling and analytical conditions because these parameters vary from emission tests conducted from one unit to another, and even within one unit. The EPA does not consider it appropriate or feasible to incorporate variability from a multitude of parameters because such information is not available and cannot be correlated to the emissions information in the emissions test database. For the final rule, EPA did conduct a statistical analysis of the data to identify the 97.5th percent confidence interval. This analysis provided similar results to the variability analysis conducted in the proposed rule. Consequently, EPA decided not to change its variability methodology. A detailed discussion of the statistical analysis conducted is provided in the memorandum ''Statistical Analysis of Mercury Test Data Variability in Response to Public Comments on Determination of the MACT Floor for Mercury Emissions'' in the docket.

*Comment:* Several commenters contended that the California standards which the CO requirements are based on do not require CO CEMS, but require initial compliance testing and periodic subsequent performance testing.

*Response:* The commenters are correct that the California CO regulations do not require CO CEMS. The regulations do provide sources with the option of conducting annual testing or installing CO CEMS to demonstrate compliance with the CO emission limit. Because the regulations that were the basis of the MACT floor do not provide specifics on which boilers should conduct annual testing and which should use CO CEMS, we reviewed the cost information provided by the commenters to make this determination. In considering the additional cost information and reviewing the cost information used in the proposed rule, the EPA decided that


Attachment I
Attachment I

changes to the CO compliance requirements were warranted. The final rule requires that new units with heat input capacities less than 100 MMBtu/hr conduct initial and annual performance tests for CO emissions. New units with heat input capacities greater or equal to 100 MMBtu/hr are still required to install, operate, and maintain a CO CEMS.

Regardless of whether the California regulations do or do not require CO CEMS, we would have reviewed the need for continuous monitoring and operating limits in order to ensure the most accurate indication of proper operation of the control system. The purpose of all of the minimum operating parameter limits in the standard is to ensure continuous compliance by ensuring that the air pollution control equipment is operating as they were during the latest performance test demonstrating compliance with the emission limits. The operating parameters are established as ''minimum'' to provide enforceable boundaries in their operation. Operating outside the bounds of the minimum parameters may lead to increased air emissions.

The EPA would also like to clarify that operation above the CO limit constitutes a deviation of the work practice standard. However, the determination of what deviations constitute violations of the standard is up to the discretion of the entity responsible for enforcement of the standards.

*F. Beyond the MACT Floor*

*Comment:* Many commenters contended that carbon injection should have been required as a beyond-the-floor option. Other commenters supported EPA's decision to not require any controls beyond-the-floor.

*Response:* For the final rule, EPA maintains that options beyond the MACT floor are not appropriate for the standard. The EPA is required by the CAA to set the standard at a minimum on the best controlled 12 percent of sources (for existing units) or best controlled similar source (for new units). The CAA also requires EPA to consider costs and non-air quality impacts and energy requirements when considering more stringent requirements than the MACT floor. As documented in the memorandum ''Methodology for Estimating Costs and Emissions Impacts for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants'' in the docket, EPA did consider the cost and emission impacts of a variety of regulatory options more stringent than the MACT floor for each subcategory. The EPA recognizes that for some subcategories, more stringent controls than the MACT floor can be applied and achieve additional emissions reductions. However, EPA also determined that the cost impacts of such controls were very high. Considering both the costs and emissions reductions, EPA determined that it would be infeasible to require any options more stringent than the floor level.

For the final rule, EPA maintains that carbon injection should not be required as an above the floor technology. As discussed in the proposal preamble, we identified one existing industrial boiler that was using carbon injection. The emissions data that we obtained from the boiler indicated that this carbon injection unit was not achieving mercury emissions reductions. This result led us to conclude that it was not the new source floor level of control. However, there may have been other reasons for the ineffectiveness of this system (*e.g.*, low inlet mercury levels, insufficient carbon injection rate, ESP instead of fabric filter for PM control). Therefore, we considered carbon injection as a beyond-the-floor option, but decided that while this control technique has been used in other source categories, there is no demonstrated evidence that it would work for industrial boilers and process heaters because the type of mercury emitted and properties of the emission streams are sufficiently different for boilers and process heaters and other source categories.

*G. Work Practice Requirements*

*Comment:* Many commenters requested EPA consider exceedences of the CO limit to be a trigger for corrective action rather than a violation.

*Response:* In the final rule, we have clarified that an exceedence of the CO limit constitutes a deviation of the work practice standard. An observed exceedence of a monitoring parameter is not an automatic violation. You are required to report any deviation from an applicable emission limitation (including operating limit). We will review the information in your report along with other available information to determine if the deviation constitutes a violation. The determination of what emission or operating limit deviation constitutes violations of the standard is up to the discretion of the entity responsible for enforcement of the standard.

*H. Compliance*

*Comment:* Many commenters requested that EPA simplify and write the fuel monitoring requirements to not require retesting of fuel for changes in fuel supplier.

*Response:* We agree that the fuel monitoring requirements in the proposal needed to be clarified and explained further. Therefore, we have clarified the fuel analysis options in the final rule. If you elect to demonstrate compliance with the HCl, mercury, or total selected metals limit by using fuel which has a statistically lower pollutant content than the emission limit, then your operating limit is the emission limit of the applicable pollutant. Under this option, you are not required to conduct performance tests (*i.e.* stack tests).

If you demonstrate compliance with the HCl, mercury, or total selected metals limit by using fuel with a statistically higher pollutant content than the applicable emission limit, but performance tests demonstrate that you can meet the emission limits, then your operating limits are the operating limits of the control device (if used) and the fuel pollutant content of the fuel type/mixture burned.

The final rule specifies the testing methodology and procedures and the initial and continuous compliance requirements to be used when complying with the fuel analysis options. Fuel analysis tests for total chloride, gross calorific value, mercury, metal analysis, sample collection, and sample preparation are included in the final rule.

If you elect to comply based on fuel analysis, you are required to statistically analyze, using the z-test, the data to determine the 90th percentile confidence level. It is the 90th percentile confidence level that is required to be used to determine compliance with the applicable emission limit. The statistical approach is required to assist in ensuring continuous compliance by statistically accounting for the inherent variability in the fuel type.

You are required to recalculate the fuel pollutant content only if you burn a new fuel type or fuel mixture. You are required to conduct another performance test if you demonstrate compliance through performance testing, you burn a new fuel type or mixture, and the results of recalculating the fuel pollutant content are higher than the level established during the initial performance test.

*Comment:* Many commenters requested EPA consider exceedences of

parametric limits to be a trigger for corrective action rather than a violation.

*Response:* In the final rule, we have clarified that an exceedence of the parametric limits constitute a deviation of the operating limits. An observed exceedence of a monitoring parameter is not an automatic violation. You are required to report any deviation from an applicable emission limitation (including operating limit). We will review the information in your report along with other available information to determine if the deviation constitutes a violation. The determination of what emission or operating limit deviation constitutes violations of the standard is up to the discretion of the entity responsible for enforcement of the standard.

*Comment:* Many commenters requested EPA revise the opacity requirements. Commenters objected to the provision in the proposed NESHAP that would establish an opacity ''operating limit'' based on the initial performance test. Some commenters contended that EPA has provided no data or references demonstrating a relationship between opacity and particulate, total metals, or mercury emissions. Other commenters argued that the proposed opacity limit approach for dry control devices is unworkable due to the inherent inability of continuous opacity monitors (COMS) to accurately measure opacity at levels less than 10 percent. Some commenters argued that the performance and opacity achieved during the initial test may not be representative of the unit's performance. Other commenters explained that equipment condition, fuel and operating variations, and other uncontrollable parameters may result in varying emissions and emissions control equipment efficiencies over time. Commenters suggested requiring the NSPS limits for opacity rather than setting opacity based on the initial compliance test.

*Response:* We have reviewed the information provided by the commenters, and agree that the opacity operating limit requirements in the proposed rule are not appropriate for this source category. Because of the variability in fuels burned, the combination of fuels burned, and the typical operation of boilers and process heaters, we have decided that an opacity limit set based on the initial performance test may not be representative of the units typical performance.

We have revised the opacity operating limit provision by requiring existing units to maintain opacity to less than or equal to 20 percent (based on 6-minute averages) except for one 6-minute period per hour of not more than 27 percent. This is the opacity limit contained in the current NSPS for industrial boilers, which has a similar PM emission limit as the final rule. Therefore, it was determined that it was appropriate to include a similar opacity level as the control device operating limit for existing units. New sources can maintain their opacity operating limit to less than or equal to 10 percent (based on 1-hour block averages). This level appears to be the lowest opacity level currently applicable to industrial boilers in State regulations.

*Comment:* Several commenters objected to the requirement to conduct performance testing at worst case conditions. The commenters found this requirement to be unrealistic because stack testing must be scheduled well in advance and worst-case conditions depend on fuel, load, and many other variables, making it impossible to assure that the testing will occur during worst-case conditions. Two commenters contended there can be no guarantee that mineral properties for a fuel source at the time of the baseline test can be guaranteed beyond the content identified during purchase contract negotiations with a fuel supplier. Two commenters suggested that EPA define what worst case conditions are because sources do not have the experience to determine worst-case representative process conditions.

*Response:* We agree that more direction and clarification is needed regarding testing at worst case conditions. We have modified fuel sampling requirements and performance testing fuel use requirements to simplify compliance. During performance testing, sources are required to burn the type of fuel or mixture of fuel types that have the highest concentration of regulated HAP. This, in combination with revised fuel sampling requirements (*e.g.*, based on fuel type and not on supplier, etc.), will simplify the determination of the fuel blend during the performance test. Sources are also required to conduct performance tests under representative full load operating conditions.

*Comment:* Several commenters objected to the requirement for annual performance tests because they felt that it is overly burdensome given the ongoing compliance demonstrations required by the NESHAP. Several commenters suggested that initial performance testing should be required with subsequent performance testing occurring every 3 to 5 years. Some commenters stated that 5-year test intervals are consistent with title V permits and have been allowed in other MACT standards (*e.g.* Hazardous Waste Combustors).

*Response:* We have worked to minimize the testing and monitoring requirements of the final rule while retaining the ability to ensure compliance with the emission limits and work practice requirements. We are providing an option for sources to conduct performance testing once every 3 years if they conduct successful performance testing for 3 consecutive years. We are also allowing sources to demonstrate compliance with the HCl, mercury, and total selected metals emission limits through fuel testing if they do not need emission control devices to achieve the standard.

*I. Emissions Averaging*

In the proposal preamble, we solicited comments on an emissions averaging or bubbling compliance alternative, as part of the EPA's general policy of encouraging the use of flexible compliance approaches where they can be properly monitored and enforced, and whether EPA should include emissions averaging in the final rule. Emissions averaging can provide sources the flexibility to comply in the least costly manner while still maintaining regulation that is workable and enforceable. We requested comment on an averaging approach for determining compliance with the non-mercury metallic HAP, HCl, mercury, and/or PM standards for existing sources. We indicated that averaging would allow owners and operators to submit non-mercury metals, mercury, HCl, and/or PM emissions limits to the EPA Administrator for approval for each existing boiler in the averaging group such that if these emission limits are met, the total emissions from all existing boilers in the averaging group are less than or equal to emission limits (for non-mercury metals, mercury, HCl, or PM) applicable to units in the particular subcategory. We indicated also that averaging would not be applicable to new sources and could only be used between boilers and process heaters in the same subcategory. Also, owners or operators of existing sources subject to the Industrial Boiler New Source Performance Standards NSPS (40 CFR part 60, subparts Db and Dc) would be required to continue to meet the PM emission standard of that NSPS regardless of whether or not they are averaging.

Emissions averaging has been incorporated into the final rule as an alternative means of complying with the final rule. Emissions averaging allows an individual affected unit emitting

above the allowable emission limit required by the final rule to comply with that emission limit by averaging its emissions with other affected units at the same facility emitting below the allowable emission limit required by the final rule.

*Comment:* Many commenters supported including averaging in the final rule. Commenters cited numerous reasons, including cost effectiveness, energy efficiency, greater flexibility in compliance, and greater environmental benefit. Commenters also cited 40 CFR part 63, subpart MM, Pulping Chemical Recovery Combustion MACT as a precedent for including emissions averaging in MACT standards. Two commenters disagreed with allowing emissions averaging, stating that it would complicate compliance determinations, does not fit within the CAA mandate, and is inconsistent with the purpose of CAA section 112. Many of those commenters who supported emissions averaging recommended additional flexibility, such as including new units, and bubbling across subcategories.

*Response:* The final rule includes an emissions averaging compliance alternative because emissions averaging represents an equivalent, more flexible, and less costly alternative to controlling certain emission points to MACT levels. We have concluded that a limited form of averaging could be implemented and not lessen the stringency of the standard. We agree with the commenters that some type of emissions averaging would provide flexibility in compliance, cost and energy savings to owners and operators. We also recognize that we must ensure that any emissions averaging option can be implemented and enforced, will be clear to sources, and most importantly, will achieve no less emissions reductions than unit by unit implementation of the MACT requirements.

The final rule is not the first NESHAP to include provisions permitting emission averaging. In general, EPA has concluded that it is permissible to establish within a NESHAP a unified compliance regimen that permits averaging across affected units subject to the standard under certain conditions. Averaging across affected units is permitted only if it can be demonstrated that the total quantity of any particular HAP that may be emitted by that portion of a contiguous major source that is subject to the NESHAP will not be greater under the averaging mechanism than it would be if each individual affected unit complied separately with the applicable standard. Under this rigorous test, the practical outcome of averaging is equivalent in every respect to compliance by the discrete units, and the statutory policy embodied in the MACT floor provisions is, therefore, fully effectuated.

The EPA has generally imposed certain limits on the scope and nature of emissions averaging programs. These limits include: (1) No averaging between different types of pollutants, (2) no averaging between sources that are not part of the same major source, (3) no averaging between sources within the same major source that are not subject to the same NESHAP, and (4) no averaging between existing sources and new sources.

The final rule fully satisfies each of these criteria. Accordingly, EPA has concluded that the averaging of emissions across affected units permitted by the final rule is consistent with the CAA. In addition, EPA notes that the provision in the final rule that requires each facility that intends to utilize emission averaging to submit an emission averaging plan provides additional assurance that the necessary criteria will be followed. In this emission averaging plan, the facility must include the identification of (1) all units in the averaging group, (2) the control technology installed, (3) the process parameter that will be monitored, (4) the specific control technology or pollution prevention measure to be used, (5) the test plan for the measurement of particulate matter (or selected total metals), hydrogen chloride, or mercury emissions, and (6) the operating parameters to be monitored for each control device. Upon receipt, the regulatory authority will not approve an emission averaging plan containing averaging between emissions of different types of pollutants or between sources in different subcategories.

The final rule excludes new affected sources from the emissions averaging provision. New sources have historically been held to a stricter standard than existing sources because it is most cost effective to integrate state-of-the-art controls into equipment design and to install the technology during construction of new sources. One reason we allow emissions averaging is to give existing sources flexibility to achieve compliance at diverse points with varying degrees of add-on control already in place in the most cost-effective and technically reasonable fashion. This concern does not apply to new sources which can be designed and constructed with compliance in mind.

Only existing large solid fuel units, as defined in the final rule, can be included in the emissions averaging compliance alternative. Of the nine subcategories established for existing sources, existing large solid fuel units is the only subcategory for which multiple HAP emissions limits apply. For the existing small solid fuel subcategory and the six existing gaseous and liquid fuel subcategories, no HAP emissions limits are included in the final rule and, thus, it would not be appropriate to allow these units to average emissions. As for the existing limited use solid fuel subcategory, since these units, as defined in the final rule, operated on a limited basis (capacity factor of less than 10 percent) and are subject only to a less stringent PM emissions limit (as a surrogate for non-mercury metals), it would be inappropriate to allow these units to average emissions.

With concern about the equivalency of emissions reductions from averaging and non-averaging in mind, the EPA Administrator is also imposing under the emission averaging provision caps on the current emissions from each of the sources in the averaging group. The emissions for each unit in the averaging group would be capped at the emission level being achieved on the effective date of the final rule. These caps would ensure that emissions do not increase above the emission levels that sources currently are designed, operated, and maintained to achieve. In the absence of performance tests, in documenting these caps, these sources will documented the type, design, and operating specification of control devices installed on the effective date of the final rule to ensure that existing controls are not removed or lessen. By including this provision in the final rule, the EPA Administrator has taken yet another step to assist in ensuring that emission averaging results in environmental benefits equivalent or better over what would have happened without emission averaging.

The inclusion of emissions averaging into rules and the decision on how to design an emission averaging approach for a particular source category must be evaluated for each source category.

*J. Risk-based Approach*

*Comment:* Multiple commenters supported EPA's incorporation of risk-based concepts into the MACT Program. One commenter stated that providing risk-based applicability criteria for sources whose HAP emissions do not pose a significant risk is appropriate. Several commenters stated that there is clear legal authority in the CAA to construct NESHAP based on risk, and such an approach is very appropriate in the case of the Industrial Boiler MACT. The commenter also noted that the regulatory framework exists within their

State to implement such an approach. Several commenters added that risk-based alternatives will function as indirect emission limits that must be maintained by the facilities to assure that the criteria are met, and, thus, such alternatives for low-risk facilities are supportable by EPA's authority under section 112(d)(4) and 112(c)(9) of the CAA and EPA's inherent *de minimis* authority. Another commenter asserted that there are ways to structure the rule to focus on facilities that pose significant risks and avoid imposition of high costs on facilities that pose little risk. An appropriate approach would be to allow individual facilities to conduct a risk assessment to show that they pose insignificant risks to the public. However, one commenter stated that it is not appropriate for State and local programs to determine which facilities should be exempted from MACT. Several commenters supported a risk-based compliance alternative for HCl.

*Response:* The EPA has determined that it can establish applicable health-based emission standards for HCl and manganese for affected sources in this category pursuant to its authority under section 112(d)(4) of the CAA. As a result, EPA has included such standards in the final rule as alternative compliance requirements. Under this approach, affected sources can choose to comply with either the MACT-based emission limits or the health-based emission limits. Sources which choose to comply with the health-based emission limit(s) will remain subject to those limits, but will need to comply with testing, monitoring and reporting requirements commensurate with the compliance option they have chosen. Such health-based standards are consistent with both the commenters' support for an approach that minimizes the impact on low-risk facilities and EPA's statutory mandate under section 112.

Section 112(d)(4) of the CAA authorizes EPA to consider established health thresholds, with an ample margin of safety, when promulgating emission standards under section 112. Hydrogen chloride and Mn are two pollutants for which health thresholds have been established. Issues concerning our legal authority to establish health-based emission standards under section 112(d)(4) are discussed in detail below.

We are not using CAA section 112(c)(9) for the final rule, and there is no delisting of categories or subcategories, as would be consistent with section 112(c)(9).

The criteria defining how affected sources demonstrate that they meet the threshold emissions levels for the health-based compliance alternative(s) is included in appendix A to the final rule. The criteria in appendix A to the final rule were developed for and apply only to the Boiler and process heater source category and are not applicable to other source categories. The final rule provides two ways that an affected source may demonstrate compliance with the health-based emission limits. The first option is through the use of lookup tables which allow facilities to determine, using a limited number of site-specific input parameters, whether emissions from boilers and process heaters might cause a hazard index (HI) limit for non-carcinogens to be exceeded. The second option is a modeling approach which allows those facilities that do not match the site-specific input parameters on which the lookup tables are based to demonstrate compliance with the health-based emission limits by modeling using site-specific information.

The affected source will have to demonstrate that it meets the criteria established by today's final rule and then assume Federally enforceable limitations, as described in appendix A of the final rule, that ensure their specified HAP emissions do not subsequently increase to exceed levels reflected in their demonstrations.

*Comment:* Multiple commenters are opposed to the risk-based exemptions. Some noted that the proposal to include risk-based exemptions is critically flawed and opposes adoption of the risk-based exemptions.

One commenter stated that the inclusion of case-by-case risk-based exemptions into the first phase of the MACT program will negate the legislative mandate and jeopardize the effectiveness of the national air toxics program to adequately protect public health and the environment and to establish a level playing field. The commenter was very concerned that EPA referenced a fundamentally flawed interpretation of CAA section 112(d)(4) written by an industry (AF&PA) subject to regulation. Of particular concern was AF&PA's unprecedented proposal to include ''*de minimis* exemptions'' and ''cost'' in the MACT standard process.

One commenter stated that the use of risk-based concepts to evade MACT applicability is contrary to the intent of the CAA and is based on a flawed interpretation of section 112(d)(4) of the CAA. The commenter added that the CAA requires a technology-based floor level of control and does not provide exclusions for risk or secondary impacts from applying the MACT floor.

One commenter stated that in separate rulemakings and lawsuits, EPA has adopted legal positions and policies that refute and contradict the very risk-based and cost-based approaches contained in the proposals. In these other arenas, the commenter contended that EPA has properly rejected risk assessment to alter the establishment of MACT standards. The EPA also has properly rejected cost in determining MACT floors and in denying a basis for avoiding the MACT floor.

Several commenters stated that the preamble discussion of the risk-based approaches is not sufficient to allow for complete public comment and, therefore, it would not be appropriate for EPA to go directly to a final rule (without reproposal) with any of the approaches outlined in the proposal.

*Response:* We are not identifying and deleting a subcategory of sources in this source category pursuant to the authority of CAA section 112(c)(9). Legal issues associated with the health-based provisions are addressed below and in the comment/response memorandum.

As discussed above, we are, however, including in the final rule alternative health-based emission standards for HCl and TSM based on our authority under CAA section 112(d)(4). Section 112(d)(4) authorizes EPA to consider health thresholds, with an ample margin of safety, in establishing emission standards. The analysis necessary to do this can generally be characterized as a risk analysis. Thus, we disagree with the commenter that we must wait for implementation of CAA section 112(f) before utilizing risk analysis.

*Comment:* Many commenters stated that the proposal to include risk-based exemptions is contrary to the 1990 CAA Amendments (CAAA) which calls for MACT standards based on technology rather than risk as a first step. They added that congress incorporated the residual risk program under CAA section 112(f) to follow the MACT standards (not to replace them). The commenters added that the need for the technology-based approach has been recently reinforced by the results of the National Air Toxics Assessment (NATA), which indicates that exposure to air toxics is very high throughout the country in urban and remote areas. Several commenters added that risk-based approaches will be used separately to augment and improve technology-based standards that do not adequately provide protection to the public. One commenter added that they have been unable to substantiate the basis for EPA's support of the regulatory relief sought by industry through risk-based exemptions and that, in fact, the use of risk assessment at this stage of the

MACT program is directly opposed to title III of the CAA.

*Response:* We disagree that inclusion of health-based compliance alternatives, in the form of emission standards based on the authority of section 112(d)(4) of the CAA, in the final rule is contrary to the 1990 CAAA. The final rule is a technology-based standard developed using the procedures dictated by section 112 of the CAA. The only difference between the final rule and other MACT is that we used our discretion under section 112(d)(4) to base appropriate parts of the final rule on established health thresholds, with an ample margin of safety. The final rule is particularly well-suited for a health-based compliance alternative, established pursuant to the criteria set forth in section 112(d)(4). In addition to the fact that there are established health thresholds for HCl and manganese, EPA has determined that many of the facilities in this source category do not emit these pollutants in amounts that pose a significant risk to the surrounding population. Those sources that can demonstrate that the emissions of acid gases and manganese meet the threshold emission levels will be in compliance with the MACT. The criteria are based on health-protective estimates of risk and the threshold emission levels will provide ample protection of human health and the environment.

Inclusion of health-based compliance alternatives in the final rule does not alter the MACT program. Rather, it merely represents EPA availing itself, in appropriate circumstances, of the authority Congress granted it in section 112(d)(4) of the CAA. We recognize that such provisions are only appropriate for certain HAP, and our decision-making process required source category-specific input from stakeholders.

Although the NATA modeling study may show measurable concentrations of toxic air pollution across the country, these data do not suggest that EPA should not establish health-based emission standards pursuant to its authority under CAA section 112(d)(4) when it determines that it is appropriate to do so. The alternative health-based emission standards included in the final rule will ensure that affected sources which choose to comply with those standards do not emit HCl and/or manganese at levels that are harmful to public health.

*Comment:* Many commenters stated that the proposal to allow risk-based exemptions would divert back to the time-consuming NESHAP development process that existed prior to the CAAA of 1990. The commenters asserted that under this process, which began with a risk assessment step, only eight NESHAP were promulgated during a 20-year period. The commenters continued that if the proposed approaches are inserted into upcoming standards, the commenters fear the MACT program (which is already far behind schedule) would be further delayed. One commenter supported EPA efforts to determine alternative MACT setting methodologies but strongly recommended that these be pursued separately from the final rule. The commenter contended that this will provide for timely issuance of final RICE and Boiler/Process Heater MACT rules relative to the settlement deadline. Two commenters stated that delays could be exacerbated by litigation following legal challenges to the rules, and such delays would trigger the MACT hammer, which would unnecessarily burden the State and local agencies and the industries. The commenters concluded that further delay is unacceptable. The commenters did not want to be in a position of implementing the CAA section 112(j) program and urged EPA to not delay the issuance of any MACT standard. The commenters noted that according to a recently proposed EPA rule regarding section 112(j), the regulated community and State and local agencies would have to proceed with part 2 permit applications, followed by case-by-case MACT, if EPA misses the newly agreed-upon MACT deadlines by as little as 2 months. This would be time consuming, costly, and burdensome for both regulators and the regulated community.

*Response:* We disagree that allowing health-based compliance alternatives in the final rule will alter the MACT program or affect the schedule for promulgation of the remaining MACT standards. We do not anticipate any further delays in completing the remaining MACT standards. The setting of alternative health-based emission standards in the final rule affects only the final rule.

The approach taken in the final rule is particularly well-suited to acid gases and manganese, which are the only pollutants included in the health-based compliance alternatives. For many facilities, these pollutants are currently emitted in amounts that do not expose anyone in surrounding population to concentrations above the established health thresholds. As a result, emissions of HCl and/or manganese at these facilities do not pose a significant risk to the surrounding population. Only those Boiler facilities that demonstrate that their emissions are below the health-based emission standard(s), are eligible for the compliance alternatives.

Including health-based compliance alternatives for boiler sources does not mean that EPA will automatically provide such alternatives for other industries. Rather, as has been the case throughout the MACT rule development process, EPA will undertake in each individual rule to determine whether it is appropriate to exercise its discretion to use its authority under CAA section 112(d)(4) in developing applicable emission standards. The Boilers NESHAP is being promulgated by the February 2004 court-ordered deadline.

*Comment:* Many commenters stated that the risk-based proposal removes the level-playing field that would result from the proper implementation of technology-based MACT standards. The commenters added that establishing a baseline level of control is essential to prevent industry from moving to areas of the country that have the least stringent air toxics programs, which was one of the primary goals of developing a uniform national air toxics program under section 112 of the 1990 CAA amendments. The risk-based approaches would jeopardize future reductions of HAP in a uniform and consistent manner across the nation.

*Response:* Providing health-based compliance alternatives for sources that can meet them in the final rule will assure the application of a uniform set of requirements across the nation. The final rule and its criteria for demonstrating eligibility for the health-based compliance alternatives apply uniformly to boilers across the nation in the large solid fuel-fired subcategories. The final rule establishes a two baseline levels of emission reduction for HCl and manganese, one based on a traditional MACT analysis and the other based on EPA's evaluation of the health threat posed by emissions of these two pollutants. All Boiler facilities must meet one of these baseline levels, and all facilities with boilers in the applicable subcategories have the same opportunity to demonstrate that they can meet the alternative health-based emission standards. The criteria for qualifying to comply with the alternative health-based emission standards are not dependent on local air toxics programs. Therefore, concerns regarding facilities moving to areas of the country with less-stringent air toxics programs should be alleviated.

*Comment:* Multiple commenters stated that section 112(d)(4) of the CAA provides EPA with authority to exclude sources that emit threshold pollutants from regulation. The commenters indicated that section 112(d)(4) allows for discretion in developing MACT standards for HAP with health


Attachment I
Attachment I

thresholds. The commenters added that the use of section 112(d)(4) authority also is supported by CAA's legislative history, which emphasizes that Congress included section 112(d)(4) in the CAA to prevent unnecessary regulation of source categories.

One commenter pointed out that Congress does not differentiate between technology-based ''emission standards'' set under CAA section 112(d)(3) versus ''health threshold'' based ''emission standards'' set under CAA section 112(d)(4). Instead, the statute explicitly treats emission standards promulgated under section 112(d)(3) and 112(d)(4) as equivalent by not distinguishing between those emission standards under the residual risk provisions of CAA section 112(f). One commenter added that EPA is permitted to establish alternative standards as long as it ensures that ambient concentrations are less than the health thresholds plus a margin of safety and the emissions do not cause adverse environmental effects. Multiple commenters pointed out that EPA has exercised such authority and cited the NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills. In addition, the commenters added that in that NESHAP, EPA identified circumstances in which they would decline to exercise 112(d)(4) authority-where significant or widespread environmental harm would occur as a result of emissions from the category and the estimated health thresholds are subject to substantial scientific uncertainty. The commenters concluded that EPA determined that these considerations were not relevant to emissions from the pulp and paper source category, and the commenters stated that the same is true for their source categories and that the same treatment is warranted for many facilities within the source categories. The commenters noted that facilities that cannot meet the risk criteria would remain subject to the MACT requirements.

One commenter added that the risk-based approaches are squarely in line with the plain meaning of section CAA 112(d)(4). The commenters cited the Senate report (Sen Rep. No. 228, 101st Congress, 1st Sess 175–6 (1990)) showed that Congress contemplated that sources within the same category or subcategory would be subject to varied regulatory requirements, depending on the risk they pose to public health. The commenters added that nothing in the statutory definition of ''emission standard'' suggests that the term is limited to a requirement for the installation of control technology. The commenters added that the risk-based compliance alternatives would meet this requirement because they would apply to an entire source category or subcategory. The EPA could create a subcategory for low-risk sources and tailor an emission standard to this subcategory, or apply to all sources in the category a NESHAP containing multiple compliance options, one or more being risk-based.

Multiple commenters stated that the plain meaning of CAA section 112(d)(4) does not allow EPA to make MACT standards for individual sources. Two commenters noted that section 112(d)(4) states that ''with respect to pollutants for which a health threshold has been established, the EPA Administrator may consider such threshold level, with ample margin of safety, when establishing emission standards under this subsection.''

Several commenters contended that EPA has misinterpreted the provision in CAA section 112(d)(4) in that section 112(d)(4) does not state that EPA can use applicability thresholds ''in lieu of'' the CAA section 112(d)(3) MACT floor requirements. The commenter interpreted section 112(d)(4) to state that health based thresholds can be considered when establishing the degree of the MACT floor requirements, but it should not be used to supplant the requirements established pursuant to section 112(d)(3).

Many commenters stated that the legislative history of CAA section 112(d)(4) clearly rejects EPA's proposed facility-by-facility MACT exemptions. The commenters noted that Congress considered and rejected the applicability cutoffs upon which EPA now solicits comment. The commenters noted that the House version of the 1990 Amendments allowed States to issue permits that exempted a source from compliance with MACT rules if the source presented sufficient evidence to demonstrate negligible risk, and the Senate version of the 1990 Amendments contained no such provision. In conference, Congress considered both the House and Senate versions and rejected the House bill's exemption for specific facilities in favor of the Senate bill's language.

*Response:* The EPA has properly exercised the authority granted to it pursuant to CAA section 112(d)(4) of the CAA in establishing health-based emission standards for HCl and manganese which are applicable to the large solid fuel-fired subcategory. Section 112(d)(4) authorizes it to by-pass the mandate in section 112(d)(3) in appropriate circumstances. Those circumstances are present in the large solid fuel-fired Boiler subcategories.

Section 112(d)(4) of the CAA provides EPA with authority, at its discretion, to develop health-based emission standards for HAP ''for which a health threshold has been established,'' provided that the standard reflects the health threshold ''with an ample margin of safety.'' (The full text of the section 112(d)(4): ''[with respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, within an ample margin of safety, when establishing emission standards under this subsection.'')

Both the plain language of CAA section 112(d)(4) and the legislative history cited above indicate that EPA has the discretion under section 112(d)(4) to develop health-based standards for some source categories emitting threshold pollutants, and that those standards may be less stringent than the corresponding ''floor''-based MACT standard would be. The EPA's use of such standards is not limited to situations where every source in the category or subcategory can comply with them. As is the case with technology-based standards, a particular source's ability to comply with a health-based standard will depend on its individual circumstances, as will what it must do to achieve compliance.

In developing health-based emission standards under CAA section 112(d)(4), EPA seeks to assure that those standards ensure that the concentration of the particular HAP to which an individual exposed at the upper end of the exposure distribution is exposed does not exceed the health threshold. The upper end of the exposure distribution is calculated using the ''high end exposure estimate,'' defined as ''a plausible estimate of individual exposure for those persons at the upper end of the exposure distribution, conceptually above the 90th percentile, but not higher than the individual in the population who has the highest exposure'' (EPA Exposure Assessment Guidelines, 57 FR 22888, May 29, 1992). Assuring protection to persons at the upper end of the exposure distribution is consistent with the ''ample margin of safety'' requirement in section 112(d)(4).

We agree that section 112(d)(4) is appropriate for establishing emission standards for HCl and manganese applicable to the large solid fuel-fired subcategories, and, therefore, we have established such standards as an alternate compliance requirement for affected sources in those subcategories. Affected sources in the large solid fuel-fired subcategories which believe that

they can demonstrate compliance with one or both of the health-based emission standards may choose to comply with those standards in lieu of the otherwise applicable MACT-based standard.

For purposes of the final rule, we are not considering background HAP emissions in developing the section CAA 112(d)(4) compliance alternatives. As we indicated in the Residual Risk Report to Congress, however, the Agency intends to consider facility-wide HAP emissions in future CAA section 112(f) residual risk actions.

*Comment:* Many commenters contended that the proposal will place a very intensive resource demand on State and local agencies to review source's risk assessments, and State/local agencies may not have expertise in risk assessment methodology or the resources needed to verify information (*e.g.*, emissions data and stack parameters) submitted with each risk assessment.

Other commenters stated that a risk-based program can be structured and implemented in a manner that does not adversely impact limited State resources. One commenter asserted that EPA should work closely with States and industry to implement the risk-based approach in a non-burdensome manner. Another commenter stated that the risk-based approaches, like other MACT standards, would simply be incorporated into each State's existing title V program. The commenter concluded that because the title V framework already exists, the addition of a risk-based MACT standard would not require States to overhaul existing permitting programs. Another commenter contended that the final MACT rule itself should set forth the applicability criteria—including the threshold levels of exposure—that sources must meet to qualify for a risk-based determination. Each source would have the burden of demonstrating that its exposures are below this limit and, therefore, the States would not be required to develop their own risk assessment guidance or to conduct source-specific risk assessments.

*Response:* The health-based emission limits for HCl and TSM which EPA has adopted in the final rule should not impose significant resource burdens on States. Further, the required compliance demonstration methodology is structured in such a way as to avoid the need for States to have significant expertise in risk assessment methodology. We have considered the commenters' concerns in developing the criteria defining eligibility for these compliance alternatives, and the approach that is included in the final rule provides clear, flexible requirements and enforceable compliance parameters. The final rule provides two ways that a facility may demonstrate eligibility for complying with the alternative health-based emission standard. First, look-up tables, which are included as Tables 2 (HCl) and 3 (manganese) in appendix A of the final rule, allow facilities to determine, using a limited number of site-specific input parameters, whether emissions from their sources might cause a hazard index limit (hazard quotient in the case of manganese) to be exceeded. If a facility cannot demonstrate eligibility using a look-up table, a modeling approach can be followed. Appendix A to the final rule presents the criteria for performing this modeling.

Regarding commenters' concerns with looking for a threshold level for carcinogens, the compliance alternatives only apply to HCl and manganese, which are not currently expected to be carcinogens. Also, the concern expressed by a commenter about exempting a facility based on limited emission data if EPA established a subcategory listing low-risk sources is not relevant here, because we have not used CAA section 112(c)(9) authority to establish a low-risk subcategory for the Industrial/Commercial/Institutional Boilers and Process Heaters source category. With respect to guidance for performing site-specific modeling, all of the procedures for performing such modeling are available in peer-reviewed scientific literature and, therefore, no additional guidance needs to be developed.

Only a portion of the major facilities in the large solid fuel-fired boilers and process heaters subcategory will submit eligibility demonstrations for the compliance alternatives. Of this portion of major sources, most will be able to demonstrate eligibility based on simple analyses (*e.g.*, using the look-up tables provided in appendix A of the final rule). However, it is likely that some facilities will require more detailed modeling. The criteria for demonstrating eligibility for the compliance alternatives are clearly spelled out in the final rule. Because these requirements are clearly spelled out and because any standards or requirements created under CAA section 112 are considered applicable requirements under 40 CFR part 70, the compliance alternatives would be incorporated into title V programs, and States would not have to overhaul existing permitting programs.

Finally, with respect to the burden associated with ongoing assurance that facilities which opt to do so continue to comply with the health-based compliance alternatives, the burden to States will be minimal. In accordance with the provisions of title V of the CAA and part 70 of 40 CFR (collectively ''title V''), the owner or operator of any affected source opting to comply with the health-based emission standards will be required to certify compliance with those standards on an annual basis. Additionally, before changing key parameters that may impact an affected source's ability to continue to meet one or both of the health-based emission standards, the affected source is required to evaluate its ability to continue to comply with the health-based emission standard(s) and submit documentation to the permitting authority supporting continued eligibility for the compliance alternative.

The promulgation of specific alternative health-based emission limits and a uniform methodology for demonstrating compliance with those alternatives alleviates any concern regarding the public process required in reviewing/approving the proposed approaches and making substantial changes to existing regulations. It also addresses concerns regarding the costs and resources associated with assuring adequate public participation in the process of reviewing site-specific risk analyses.

To ensure that affected sources which choose to comply with the alternative health-based emission standards continue to comply with those standards after the initial compliance demonstration, specified assessment parameters (*e.g.*, HCl and/or manganese emission rate, boiler heat output, etc.) must be included in their title V permit as enforceable requirements. Draft permits and permit applications must be made available to the public from the State or local agency responsible for issuing the permit, or in the case where EPA is issuing the permit, from the EPA regional office. Members of the public may request that the State or local agency include them on their public notice mailing list, thus providing the public the opportunity to review the appropriateness of these requirements. Every proposed title V permit has a 30-day public comment period and a 45-day EPA review period. If EPA does not object to the permit, any member of the public may petition EPA to object to the permit within 60 days of the end of the EPA review period.

*Comment:* A commenter contended that exempting HCl emissions from control is inappropriate, particularly since EPA proposed HCl as a surrogate measure for all the inorganic HAP


Attachment I
Attachment I

emitted by this source category. Hence, an exemption that excluded HCl emission points from control requirements would also exclude emissions of all the other inorganic HAP that would likely include hydrogen cyanide and hydrogen fluoride.

*Response:* Facilities attempting to utilize the health-based compliance alternative for HCl will not be required to evaluate emissions of other inorganic HAP except for chlorine. We conducted an assessment of boiler emissions and determined that, of the acid gas HAP controlled by scrubbing technology, chlorine is responsible for the great majority of risk and HCl is responsible for the next largest portion of the total risk. The contributions of other HAP, including hydrogen fluoride, to the total risk were negligible. Therefore, facilities attempting to demonstrate eligibility for the health-based compliance alternative for HCl, either by conducting a lookup table analysis or by conducting a site-specific compliance demonstration, must include emission rates of chlorine and HCl from their boilers. We do not expect hydrogen cyanide emissions from boilers covered under the final rule.

*Comment:* Commenters stated that the proposal does not address ecological risk that may result from uncontrolled HAP emissions, especially in those areas with sensitive habitats but few people nearby to be exposed and that EPA provided inadequate discussion of how environmental risks will be evaluated.

*Response:* To identify HAP with potential to cause multimedia and/or environmental effects, the EPA has identified HAP with significant potential to persist in the environment and to bioaccumulate. This list does not include HCl or manganese which are the only HAP with health-based compliance alternatives in the final rule. Additionally, a screening level analysis conducted by the EPA indicates that acute impacts of these HAP from industrial boiler facilities are highly unlikely. For these reasons we do not believe that emissions of HCl or manganese from industrial boiler facilities will pose a significant risk to the environment and facilities attempting to comply with the health-based alternatives for these HAP are not required to perform an ecological assessment.

## V. Impacts of the Final Rule

### *A. What Are the Air Impacts?*

Nationwide emissions of selected HAP (*i.e.*, HCl, hydrogen fluoride, lead, and nickel) will be reduced by 58,500 tpy for existing units and 73 tpy for new units. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total HAP reduction for existing units could be 50,600 tpy. Emissions of HCl will be reduced by 42,000 tpy for existing units and 72 tpy for new units. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total HCl emissions reduction for existing units could be 36,400 tpy. Emissions of mercury will be reduced by 1.9 tpy for existing units and 0.006 tpy for new units. Emissions of PM will be reduced by 565,000 tpy for existing units and 480 tpy for new units. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total PM emissions reduction for existing units could be 547,000 tpy. Emissions of total selected nonmercury metals (*i.e.*, arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium) will be reduced by 1,100 tpy for existing units and will be reduced by 1.4 tpy for new units. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total nonmercury metals emissions reduction for existing units could be 950 tpy. In addition, emissions of sulfur dioxide ($SO_2$) are established to be reduced by 113,000 tpy for existing sources and 110 tpy for new sources. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total $SO_2$ emissions reduction for existing units could be 49,000 tpy.

As noted above, use of the health-based compliance alternatives by eligible facilities will affect reductions in HAP, PM (and total non-mercury metals that are generally controlled along with PM), and $SO_2$. Nevertheless, our analysis indicates that the difference in emissions of HCl and manganese with and without the compliance alternatives will not affect health risks because the compliance alternative is available only to those facilities that demonstrate that their emissions pose little risks. Emissions of PM and $SO_2$ will still be reduced by the implementation of other provisions of the Clean Air Act, such as attainment of the health-based National Ambient Air Quality Standards, which include mechanisms to control such emissions.

A discussion of the methodology used to estimate emissions and emissions reductions is presented in ''Estimation of Baseline Emissions and Emissions Reductions for Industrial, Commercial, and Institutional Boilers and Process Heaters'' in the docket. To estimate the potential impacts of the health-based compliance alternatives, we performed a preliminary ''rough'' assessment of the large solid fuel subcategory to determine the extent to which facilities might become eligible for the health-based compliance alternatives. Based on the results of this rough assessment, 448 coal-fired boilers could potentially be eligible for the HCl compliance alternative and 386 biomass-fired boilers could be potentially eligible for the TSM compliance alternative.

### *B. What Are the Water and Solid Waste Impacts?*

The EPA estimates the additional water usage that would result from the MACT floor level of control to be 110 million gallons per year for existing sources and 0.6 million gallons per year for new sources. In addition to the increased water usage, an additional 3.7 million gallons per year of wastewater will be produced for existing sources and 0.6 million gallons per year for new sources. The costs of treating the additional wastewater are $18,000 for existing sources and $2,300 for new sources, in advance of any facility demonstrating eligibility for the health-based compliance alternatives. These costs are accounted for in the control costs estimates.

The EPA estimates the additional solid waste that would result from the MACT floor level of control to be 102,000 tpy for existing sources and 1 tpy for new sources. The estimated costs of handling the additional solid waste generated are $1.5 million for existing sources and $17,000 for new sources, in advance of any facility demonstrating eligibility for the health-based compliance alternatives. These costs are also accounted for in the control costs estimates.

A discussion of the methodology used to estimate impacts is presented in ''Estimation of Impacts for Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP'' in the docket.

### *C. What Are the Energy Impacts?*

The EPA expects an increase of approximately 1,130 million kilowatt hours (kWh) in national annual energy usage as a result of the final rule, in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Of this amount, 1,120 million kWh is estimated from existing sources and 13 million kWh is estimated from new sources. The increase results from the electricity required to operate control devices

installed to meet the final rule, such as wet scrubbers and fabric filters.

*D. What Are the Control Costs?*

To estimate the national cost impacts of the final rule for existing sources, EPA developed several model boilers and process heaters and determined the cost of control equipment for these model boilers. The EPA assigned a model boiler or heater to each existing unit in the database based on the fuel, size, design, and current controls. The analysis considered all air pollution control equipment currently in operation at existing boilers and process heaters. Model costs were then assigned to all existing units that could not otherwise meet the proposed emission limits. The resulting total national cost impact of the final rule is $1,790 million in capital expenditures and $860 million per year in total annual costs. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, these costs could be $1,440 million in capital expenditures and $690 million per year in total annual costs. The total capital and annual costs include costs for testing, monitoring, and recordkeeping and reporting. Costs include testing and monitoring costs, but not recordkeeping and reporting costs.

Using Department of Energy projections on fuel expenditures, EPA estimated the number of additional boilers that could be potentially constructed. The resulting total national cost impact of the final rule in the 5th year is $58 million in capital expenditures and $18.6 million per year in total annual costs, in advance of any facility demonstrating eligibility for the health-based provisions. Costs are mainly for testing and monitoring.

A discussion of the methodology used to estimate cost impacts is presented in ''Methodology for Estimating Control Cost for the Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants'' in the docket.

*E. What Are the Economic Impacts?*

The economic impact analysis shows that the expected price increase for output in the 40 affected industries would be no more than 0.04 percent as a result of the final rule for industrial boilers and process heaters. The expected change in production of affected output is a reduction of only 0.03 percent or less in the same industries. In addition, impacts to affected energy markets show that prices of petroleum, natural gas, electricity and coal should increase by no more than 0.05 percent as a result of implementation of the final rule, and output of these types of energy should decrease by no more than 0.01 percent. These impacts are generated in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, these impacts on product prices could fall to a 0.03 percent increase, and a decrease in output of the energy types mentioned previously of less than 0.01 percent. Therefore, it is likely that there is no adverse impact expected to occur for those industries that produce output affected by the final rule, such as lumber and wood products, chemical manufacturers, petroleum refining, and furniture manufacturing.

*F. What Are the Social Costs and Benefits of the Final Rule?*

Our assessment of costs and benefits of the final rule is detailed in the ''Regulatory Impact Analysis for the Final Industrial, Commercial, and Institutional Boilers and Process Heaters MACT.'' The Regulatory Impact Analysis (RIA) is located in the Docket.

It is estimated that 3 years after implementation of the final rule, HAP will be reduced by 58,500 tpy (53,200 megagrams per year (Mg/yr)) due to reductions in arsenic, beryllium, HCl, and several other HAP from existing affected emission sources. Of these reductions, 42,000 tpy (38,200 Mg/yr) are of HCl. In addition to these reductions, there are 73 tpy (66 Mg/yr) of HAP reductions expected from new sources. Of these reductions, virtually all of them are of HCl. The health effects associated with these HAP are discussed earlier in this preamble. While it is beneficial to society to reduce these HAP, we are unable to quantify and provide a monetized estimate of the benefits at this time.

Despite our inability to quantify and provide monetized benefit estimates from HAP reductions, it is possible to derive rough estimates for one of the more important benefit categories, *i.e.*, the potential number of cancer cases avoided and cancer risk reduced as a result of the imposition of the MACT level of control on this source category. Our analysis suggests that imposition of the MACT level of control would reduce cancer cases at worst case baseline assumptions by possibly tens of cases per year, on average, starting some years after implementation of the final rule. This risk reduction estimate is uncertain, is likely to overestimate benefits, and should be regarded as an extremely rough estimate. Furthermore, the estimate should be viewed in the context of the full spectrum of unquantified noncancer effects associated with the HAP reductions. Noncancer effects associated with the HAP are presented earlier in this preamble.

The control technologies used to reduce the level of HAP emitted from affected sources are also expected to reduce emissions of PM ($PM_{10}$, $PM_{2.5}$), and sulfur dioxide ($SO_2$). It is estimated that $PM_{10}$ emissions reductions total approximately 562,000 tpy (510,000 Mg/yr), $PM_{2.5}$ emissions reductions total approximately 159,000 tpy (145,000 Mg/yr), and $SO_2$ emissions reductions total approximately 113,000 tpy (102,670 Mg/yr). These estimated reductions occur from existing sources in operation 3 years after the implementation of the requirements of the final rule and are expected to continue throughout the life of the sources.

In general, exposure to high concentrations of PM may aggravate existing respiratory and cardiovascular disease including asthma, bronchitis and emphysema, especially in children and the elderly. $SO_2$ is also a contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. Exposure to $PM_{2.5}$ can lead to decreased lung function, and alterations in lung tissue and structure and in respiratory tract defense mechanisms which may then lead to, increased respiratory symptoms and disease, or in more severe cases, premature death or increased hospital admissions and emergency room visits. Children, the elderly, and people with cardiopulmonary disease, such as asthma, are most at risk from these health effects. Fine PM can also form a haze that reduces the visibility of scenic areas, can cause acidification of water bodies, and have other impacts on soil, plants, and materials. As $SO_2$ emissions transform into PM, they can lead to the same health and welfare effects listed above.

For $PM_{10}$ and $PM_{2.5}$ (including $SO_2$ contributions to ambient concentrations of $PM_{2.5}$), we provide a monetary estimate for the benefits associated with the reduction in emissions associated with the final rule. To do so, we conducted an air quality assessment to determine the change in ambient concentrations of $PM_{10}$ and $PM_{2.5}$ that result from reductions of PM and $SO_2$ at existing affected facilities. Unfortunately, our data are not able to define the exact location of the reductions for every affected boiler and process heater. Because of this

limitation, the benefits assessment is conducted in two phases. First, an air quality analysis was conducted for emissions reductions from those emissions sources that have an known link to a specific control device, which represents approximately 50 percent of the total emissions reductions mentioned above. Using this subset of information, we determined the air quality change nationwide. The results of the air quality assessment served as input to a model that estimates the total monetary value of benefits of the health effects listed above. Total benefits associated with this portion of the analysis (in phase one) are $8.2 billion in the year 2005 (presented in 1999 dollars).

In the second phase of our analysis, for those emissions reductions from affected sources that do not have a known link to a specific control device, the results of the air quality analysis in phase one serve as a reasonable approximation of air quality changes to transfer to the remaining emissions reductions of the final rule. Because there is not a reasonable way to apportion the total benefits of the combined impact of the PM and $SO_2$ reductions from the air quality and benefit analyses completed above, we performed two additional air quality analyses. One analysis was performed to evaluate the impact on air quality of the PM reductions alone (holding $SO_2$ unchanged), and one to evaluate the impact on air quality from the $SO_2$ reductions alone (holding PM unchanged). With independent PM and $SO_2$ air quality assessments, we can determine the total benefit associated with each component of total pollutant reductions. The total benefit associated with the PM and $SO_2$ reductions with unspecified location (in phase two) are $7.9 billion.

The benefit estimates derived from the air quality modeling in the first phase of our analysis uses an analytical structure and sequence similar to that used in the benefits analyses for the proposed Nonroad Diesel rule and proposed Integrated Air Quality Rule (IAQR) and in the ''section 812 studies'' analysis of the total benefits and costs of the Clean Air Act. We used many of the same models and assumptions used in the Nonroad Diesel and IAQR analyses as well as other Regulatory Impact Analyses (RIAs) prepared by the Office of Air and Radiation. By adopting the major design elements, models, and assumptions developed for the section 812 studies and other RIAs, we have largely relied on methods which have already received extensive review by the independent Science Advisory Board (SAB), the National Academies of Sciences, by the public, and by other federal agencies.

The benefits transfer method used in the second phase of the analysis is similar to that used to estimate benefits at the proposal of the rule, and in the proposed Reciprocating Internal Combustion Engines NESHAP. A similar method has also been used in recent benefits analyses for the proposed Nonroad Large Spark-Ignition Engines and Recreational Engines standards (67 FR 68241, November 8, 2002).

The sum of benefits from the two phases of analysis provide an estimate of the total benefits of the rule. Total benefits of the final rule are approximately $16.3 billion (1999$). This economic benefit is associated with approximately 2,270 avoided premature mortalities, 5,100 avoided cases of chronic bronchitis, thousands of avoided hospital and emergency room visits for respiratory and cardiovascular diseases, tens of thousands of avoided days with respiratory symptoms, and millions of avoided work loss and restricted activity days. This estimate is generated in advance of any facility demonstrating eligibility for the health-based compliance alternatives.

Every benefit-cost analysis examining the potential effects of a change in environmental protection requirements is limited, to some extent, by data gaps, limitations in model capabilities (such as geographic coverage), and uncertainties in the underlying scientific and economic studies used to configure the benefit and cost models. Deficiencies in the scientific literature often result in the inability to estimate changes in health and environmental effects. Deficiencies in the economics literature often result in the inability to assign economic values even to those health and environmental outcomes that can be quantified. While these general uncertainties in the underlying scientific and economics literatures are discussed in detail in the RIA and its supporting documents and references, the key uncertainties which have a bearing on the results of the benefit-cost analysis of today's action are the following:

1. The exclusion of potentially significant benefit categories (*e.g.*, health and ecological benefits of reduction in hazardous air pollutants emissions);
2. Errors in measurement and projection for variables such as population growth;
3. Uncertainties in the estimation of future year emissions inventories and air quality;
4. Uncertainties associated with the extrapolation of air quality monitoring data to some unmonitored areas required to better capture the effects of the standards on the affected population;
5. Variability in the estimated relationships of health and welfare effects to changes in pollutant concentrations; and
6. Uncertainties associated with the benefit transfer approach.
7. Uncertainties in the size of the effect estimates linking air pollution and health endpoints.
8. Uncertainties about relative toxicity of different components within the complex mixture.

Despite these uncertainties, we believe the benefit-cost analysis provides a reasonable indication of the expected economic benefits of the final rule under a given set of assumptions.

Based on estimated compliance costs (control + administrative costs associated with Paperwork Reduction Act requirements associated with the rule and predicted changes in the price and output of electricity), the estimated annualized social costs of the Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP are $863 million (1999$). Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, these annualized social costs could fall to $746 million. Social costs are different from compliance costs in that social costs take into account the interactions between affected producers and the consumers of affected products in response to the imposition of the compliance costs.

As explained above, we estimate $16.3 billion in benefits from the final rule, compared to $863 million in costs. It is important to put the results of this analysis in the proper context. The large benefit estimate is not attributable to reducing human and environmental exposure to the HAPs that are reduced by this rule. It arises from ancillary reductions in PM and $SO_2$ that result from controls aimed at complying with the NESHAP. Although consideration of ancillary benefits is reasonable, we note that these benefits are not uniquely attributable to the regulation. The Agency believes nonetheless that the key rationale for controlling arsenic, beryllium, HCl, and the other HAPs associated with this rule is to reduce public and environmental exposure to these HAPs, thereby reducing risk to public health and wildlife. Although the available science does not support quantification of these benefits at this time, the Agency believes the qualitative


Attachment I
Attachment I

benefits are large enough to justify substantial investment in these emission reductions.

It should be recognized, however, that this analysis does not account for many of the potential benefits that may result from these actions. Thus, our estimate of total benefits also includes a ''B'' to represent those additional health and environmental benefits which could not be expressed in quantitative incidence and/or economic value terms. The net benefits would be greater if all the benefits of the other pollutant reductions could be quantified. Notable omissions to the net benefits include all benefits of HAP reductions, including reduced cancer incidences, toxic morbidity effects, and cardiovascular and CNS effects, and all welfare effects from reduction of ambient PM and $SO_2$. A full appreciation of the overall economic consequences of the industrial boiler and process heater standards requires consideration of all benefits and costs expected to result from the final rule, not just those benefits and costs that could be expressed here in dollar terms. A full listing of the benefit categories that could not be quantified or monetized in our base estimate are provided in Table 2 of this preamble.

TABLE 2.—UNQUANTIFIED BENEFIT CATEGORIES

| | Unquantified benefit categories associated with HAP eductions | Unquantified benefit categories associated with PM eductions |
|---|---|---|
| Health Categories | —Airway responsiveness<br>—Pulmonary inflammation<br>—Susceptibility to respiratory infection<br>—Acute inflammation and respiratory cell damage<br>—Chronic respiratory damage/Premature aging of lungs<br>—Emergency room visits for asthma | —Changes in pulmonary function.<br>—Morphological changes. Altered host defense mechanisms.<br>—Other chronic respiratory disease.<br>—Emergency room visits for asthma.<br>—Emergency visits for non-asthma respiratory and cardiovascular causes.<br>—Lower and upper respiratory systems.<br>—Acute bronchitis.<br>—Shortness of breath. |
| Welfare Categories | —Ecosystem and vegetation effects<br>—Damage to urban ornamentals (e.g., grass, flowers, shrubs, and trees in urban areas).<br>—Commercial field crops<br>—Fruit and vegetable crops<br>—Yields of tree seedlings, commercial and non-commercial forests.<br>—Damage to ecosystems<br>—Materials damage | —School absence rates.<br>—Materials damage.<br>—Damage to ecosystems (e.g., acid sulfate deposition).<br>—Nitrates in drinking water.<br>—Visibility in recreational and residential areas. |

Using the results of the benefit analysis, we can use benefit-cost comparison (or net benefits) as another tool to evaluate the reallocation of society's resources needed to address the pollution externality created by the operation of industrial boilers and process heaters. The additional costs of internalizing the pollution produced at major sources of emissions from industrial boilers and process heaters are compared to the improvement in society's well-being from a cleaner and healthier environment. Comparing benefits of the final rule to the costs imposed by alternative ways to control emissions optimally identifies a strategy that results in the highest net benefit to society. In the final rule, we include only one option, the minimal level of control mandated by the CAA, or the MACT floor. Other alternatives that lead to higher levels of control (or beyond-the-floor alternatives) lead to higher estimates of benefits net of costs, but also lead to additional economic impacts, including more substantial impacts to small entities. For more details, please refer to the RIA for the final rule.

Based on estimated compliance costs associated with the final rule and the predicted change in prices and production in the affected industries, the estimated annualized social costs of the final rule are $863 million (1999 dollars). This estimate of social cost is generated in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, these annualized social costs could fall to $746 million. Social costs are different from compliance costs in that social costs take into account the interactions of consumers and producers of affected products in response to the imposition of the compliance costs. Therefore, the Agency's estimate of monetized benefits net of costs is $15.4 billion + B (1999 dollars) in 2005.

## VI. Statutory and Executive Order Reviews

### *A. Executive Order 12866: Regulatory Planning and Review*

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the EPA must determine whether a regulatory action is ''significant'' and, therefore, subject to review by the OMB and the requirements of the Executive Order. The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligation of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, the EPA has determined that the final rule is a ''significant regulatory action'' because it has an annual effect on the economy of over $100 million. As such, the final rule was submitted to OMB for review.


Attachment I
Attachment I

*B. Paperwork Reduction Act*

The information collection requirements in the final rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq*. The information collection requirements are not enforceable until OMB approves them.

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

The final rule requires maintenance inspections of the control devices, but does not require any notifications or reports beyond those required by the General Provisions. The recordkeeping requirements require only the specific information needed to determine compliance.

The annual monitoring, reporting, and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the final rule) is estimated to be $91 million. This includes 1.2 million labor hours per year at a total labor cost of $67 million per year, and total non-labor capital costs of $24 million per year. This estimate includes a one-time performance test, semiannual excess emission reports, maintenance inspections, notifications, and recordkeeping. The total burden for the Federal government (averaged over the first 3 years after the effective date of the final rule) is estimated to be 346,000 hours per year at a total labor cost of $14 million per year. Table 3 of this preamble shows the average annualized burden for monitoring, reporting, and recordkeeping for each subcategory.

TABLE 3.—SUMMARY OF THE AVERAGE REPORTING AND RECORDKEEPING COSTS

| Subcategory | Total labor costs ($) | Total capital costs ($) | Total costs ($) |
|---|---|---|---|
| Large Solid Fuel Units | 56,253,000 | 12,488,000 | 68,741,000 |
| Limited Use Solid Fuel Units | 2,565,000 | 2,267,000 | 4,832,000 |
| Small Solid Fuel Units | 627,000 | 111,000 | 738,000 |
| Large Liquid Fuel Units | 498,000 | 491,000 | 989,000 |
| Limited Use Liquid Fuel Units | 214,000 | 264,000 | 478,000 |
| Small Liquid Fuel Units | 442,000 | 0 | 442,000 |
| Large Gaseous Fuel Units | 3,673,000 | 6,615,000 | 10,288,000 |
| Limited Use Gaseous Fuel Units | 663,000 | 1,209,000 | 1,872,000 |
| Small Gaseous Fuel Units | 2,413,000 | 0 | 2,413,000 |

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

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

The EPA requested comments on the need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques.

*C. Regulatory Flexibility Act*

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with the final rule. We have also determined that the final rule will not have a significant impact on a substantial number of small entities.

For purposes of assessing the impacts of the final rule on small entities, small entity is defined as:

(1) A small business according to Small Business Administration size standards by the North American Industry Classification System (NAICS) category of the owning entity. The range of small business size standards for the 40 affected industries ranges from 500 to 1,000 employees, except for petroleum refining and electric utilities. In these latter two industries, the size standard is 1,500 employees and a mass throughput of 75,000 barrels/day or less, and 4 million kilowatt-hours of production or less, respectively;

(2) A small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and

(3) A small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

After considering the economic impact of the final rule on small entities, we have determined that the final rule will not have a significant economic impact on a substantial number of small entities. Based on SBA size definitions for the affected industries and reported sales and employment data, EPA identified 185 of the 576 entities, or 32 percent, owning affected facilities as small entities. Although small entities represent 32 percent of the entities within the source category, they are expected to incur only 4 percent of the total compliance costs of $862.7 million (1998 dollars). There are only ten small entities with compliance costs equal to or greater than 3 percent of their sales. In addition, there are only 24 small entities with cost-to-sales ratios between 1 and 3 percent.


Attachment I
Attachment I

An economic impact analysis was performed to estimate the changes in product price and production quantities for the final rule. As mentioned in the summary of economic impacts earlier in this preamble, the estimated changes in prices and output for affected entities is no more than 0.05 percent. For more information, consult the docket for the final rule.

It should be noted that these small entity impacts are in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, the estimated small entity impacts could fall to eight small entities with compliance costs equal to or greater than 3 percent of their sales, and 14 small entities with compliance costs between 1 and 3 percent of their sales.

The final rule will not have a significant economic impact on a substantial number of small entities as a result of several decisions EPA made regarding the development of the rule, which resulted in limiting the impact of the rule on small entities. First, as mentioned earlier in this preamble, EPA identified small units (heat input of 10 MMBtu/hr or less) and limited use boilers (operate less than 10 percent of the time) as separate subcategories different from large units. Many small and limited use units are located at small entities. As also discussed earlier, the results of the MACT floor analysis for these subcategories of existing sources was that no MACT floor could be identified except for the limited use solid fuel subcategory, which is less stringent than the MACT floor for large units. Furthermore, the results of the beyond-the-floor analysis for these subcategories indicated that the costs would be too high to consider them feasible options. Consequently, the final rule contains no emission limitations for any of the existing small and limited use subcategories except the existing limited use solid fuel subcategory. In addition, the alternative metals emission limit resulted in minimizing the impacts on small entities since some of the potential entities burning a fuel containing very little metals are small entities.

*D. Unfunded Mandates Reform Act of 1995*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, we generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any 1 year. Before promulgating a rule for which a written statement is needed, section 205 of the UMRA generally requires us to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows us to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the EPA Administrator publishes with the final rule an explanation why that alternative was not adopted. Before we establish any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, we must develop a small government agency plan under section 203 of the UMRA. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of regulatory promulgation with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

We determined that the final rule contains a Federal mandate that may result in expenditures of $100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any 1 year. Accordingly, we have prepared a written statement (titled ''Unfunded Mandates Reform Act Analysis for the Industrial Boilers and Process Heaters NESHAP)'' under section 202 of the UMRA, which is summarized below.

Statutory Authority

As discussed in this preamble, the statutory authority for the final rulemaking is section 112 of the CAA. Title III of the CAA Amendments was enacted to reduce nationwide air toxic emissions. Section 112(b) of the CAA lists the 188 chemicals, compounds, or groups of chemicals deemed by Congress to be HAP. These toxic air pollutants are to be regulated by NESHAP.

Section 112(d) of the CAA directs us to develop NESHAP, which require existing and new major sources to control emissions of HAP using MACT based standards. The final rule applies to all industrial, commercial, and institutional boilers and process heaters located at major sources of HAP emissions.

In compliance with section 205(a) of the UMRA, we identified and considered a reasonable number of regulatory alternatives. Additional information on the costs and environmental impacts of these regulatory alternatives is presented in the docket.

The regulatory alternative upon which the final rule is based represents the MACT floor for industrial boilers and process heaters and, as a result, it is the least costly and least burdensome alternative.

Social Costs and Benefits

The regulatory impact analysis prepared for the final rule including the EPA's assessment of costs and benefits, is detailed in the ''Regulatory Impact Analysis for the Industrial Boilers and Process Heaters MACT'' in the docket. Based on estimated compliance costs associated with the final rule and the predicted change in prices and production in the affected industries, the estimated social costs of the final rule are $863 million (1999 dollars). Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, these annualized social costs could fall to $746 million.

It is estimated that 5 years after implementation of the final rule, HAP will be reduced by 58,500 tpy due to reductions in arsenic, beryllium, dioxin, hydrochloric acid, and several other HAP from industrial boilers and process heaters. Studies have determined a relationship between exposure to these HAP and the onset of cancer, however, there are some questions remaining on how cancers that may result from exposure to these HAP can be quantified in terms of dollars. Therefore, the EPA is unable to provide a monetized estimate of the benefits of the HAP reduced by the final rule at this time. However, there are significant reductions in PM and in $SO_2$ that occur. Reductions of 560,000 tons of PM with a diameter of less than or equal to 10 micrometers ($PM_{10}$), 159,000 tons of PM with a diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$), and 112,000 tons of $SO_2$ are expected to occur. These reductions occur from existing sources in operation 5 years after the implementation of the regulation and are expected to continue throughout the life of the affected sources. The major health effect that results from these PM

and $SO_2$ emissions reductions is a reduction in premature mortality. Other health effects that occur are reductions in chronic bronchitis, asthma attacks, and work-lost days (*i.e.*, days when employees are unable to work).

While we are unable to monetize the benefits associated with the HAP emissions reductions, we are able to monetize the benefits associated with the PM and $SO_2$ emissions reductions. For $SO_2$ and PM, we estimated the benefits associated with health effects of PM, but were unable to quantify all categories of benefits (particularly those associated with ecosystem and environmental effects). Unquantified benefits are noted with ''B'' in the estimates presented below. Our primary estimate of the monetized benefits in 2005 associated with the implementation of the proposed alternative is $16.3 billion + B (1999 dollars). This estimate is about $15.3 billion + B (1999 dollars) higher than the estimated social costs shown earlier in this section. These benefit estimates are in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, the benefit estimate presuming the health-based compliance alternatives is $14.5 billion + B, which is $1.7 billion lower than the estimate for the final rule. This estimate is $13.8 billion + B higher than the estimated social costs presuming the health-based compliance alternatives. The general approach to calculating monetized benefits is discussed in more detail earlier in this preamble. For more detailed information on the benefits estimated for the final rule, refer to the RIA in the docket.

Future and Disproportionate Costs

The Unfunded Mandates Act requires that we estimate, where accurate estimation is reasonably feasible, future compliance costs imposed by the rule and any disproportionate budgetary effects. Our estimates of the future compliance costs of the final rule are discussed previously in this preamble.

We do not feel that there will be any disproportionate budgetary effects of the final rule on any particular areas of the country, State or local governments, types of communities (*e.g.,* urban, rural), or particular industry segments. This is true for the 257 facilities owned by 54 different government bodies, and this is borne out by the results of the ''Economic Impact Analysis of the Industrial Boilers and Process Heaters NESHAP,'' the results of which are discussed previously in this preamble.

Effects on the National Economy

The Unfunded Mandates Act requires that we estimate the effect of the final rule on the national economy. To the extent feasible, we must estimate the effect on productivity, economic growth, full employment, creation of productive jobs, and international competitiveness of the U.S. goods and services, if we determine that accurate estimates are reasonably feasible and that such effect is relevant and material.

The nationwide economic impact of the final rule is presented in the ''Economic Impact Analysis for the Industrial Boilers and Process Heaters MACT'' in the docket. This analysis provides estimates of the effect of the final rule on some of the categories mentioned above. The results of the economic impact analysis are summarized previously in this preamble. The results show that there will be little impact on prices and output from the affected industries, and little impact on communities that may be affected by the final rule. In addition, there should be little impact on energy markets (in this case, coal, natural gas, petroleum products, and electricity). Hence, the potential impacts on the categories mentioned above should be minimal.

Consultation With Government Officials

The Unfunded Mandates Act requires that we describe the extent of the EPA's prior consultation with affected State, local, and tribal officials, summarize the officials' comments or concerns, and summarize our response to those comments or concerns. In addition, section 203 of the UMRA requires that we develop a plan for informing and advising small governments that may be significantly or uniquely impacted by a rule. Although the final rule does not significantly affect any State, local, or Tribal governments, we have consulted with State and local air pollution control officials. We also have held meetings on the final rule with many of the stakeholders from numerous individual companies, environmental groups, consultants and vendors, labor unions, and other interested parties. We have added materials to the docket to document these meetings.

In addition, we have determined that the final rule contains no regulatory requirements that might significantly or uniquely affect small governments. While some small governments may have some sources affected by the final rule, the impacts are not expected to be significant. Therefore, the final rule is not subject to the requirements of section 203 of the UMRA. However, EPA did complete a report containing analyses called for in the UMRA as a response to comments from many municipal utilities regarding the final rule and its potential impacts. This report, ''Unfunded Mandates Reform Act Analysis for the Industrial Boilers and Process Heaters NESHAP,'' is in the docket.

*E. Executive Order 13132: Federalism*

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

The final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132.

The agency is required by section 112 of the CAA, to establish the standards in the final rule. The final rule primarily affects private industry, and does not impose significant economic costs on State or local governments. The final rule does not include an express provision preempting State or local regulations. Thus, the requirements of section 6 of the Executive Order do not apply to the final rule.

Although section 6 of Executive Order 13132 does not apply to the final rule, we consulted with representatives of State and local governments to enable them to provide meaningful and timely input into the development of the final rule. This consultation took place during the ICCR Federal Advisory Committee Act (FACA) committee meetings where members representing State and local governments participated in developing recommendations for EPA's combustion-related rulemakings, including the final rule. The concerns raised by representatives of State and local governments were considered during the development of the final rule.

In the spirit of Executive Order 13132, and consistent with EPA policy to

promote communications between EPA and State and local governments, EPA specifically solicited comment on the final rule from State and local officials.

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

Executive Order 13175 (65 FR 67249, November 9, 2000) requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' The final rule does not have tribal implications, as specified in Executive Order 13175.

The final rule does not significantly or uniquely affect the communities of Indian tribal governments. We do not know of any industrial-commercial-institutional boilers or process heaters owned or operated by Indian tribal governments. However, if there are any, the effect of these rules on communities of tribal governments would not be unique or disproportionate to the effect on other communities. Thus, Executive Order 13175 does not apply to the final rule. The EPA specifically solicited additional comment on the final rule from tribal officials, but received none.

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

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any regulation that: (1) Is determined to be ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that we have reason to believe may have a disproportionate effect on children.

If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety effects of the planned regulation on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the EPA.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. The final rule is not subject to Executive Order 13045 because it is based on technology performance and not on health or safety risks.

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

Executive Order 13211 (66 FR 28355, May 22, 2001) provides that agencies shall prepare and submit to the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, a Statement of Energy Effects for certain actions identified as ''significant energy actions.'' Section 4(b) of Executive Order 13211 defines ''significant energy actions'' as ''any action by an agency (normally published in the **Federal Register**) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of final rulemaking, and notices of final rulemaking: (1)(i) That is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a ''significant energy action.'' The final rule is not a ''significant energy action'' because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The basis for the determination is as follows.

The reduction in petroleum product output, which includes reductions in fuel production, is estimated at only 0.001 percent, or about 68 barrels per day based on 2000 U.S. fuel production nationwide. That is a minimal reduction in nationwide petroleum product output. The reduction in coal production is estimated at only 0.014 percent, or about 3.5 million tpy (or less than 1,000 tons per day) based on 2000 U.S. coal production nationwide. The combination of the increase in electricity usage estimated with the effect of the increased price of affected output yields an increase in electricity output estimated at only 0.012 percent, or about 0.72 billion kilowatt-hours per year based on 2000 U.S. electricity production nationwide. All energy price changes estimated show no increase in price more than 0.05 percent nationwide, and a similar result occurs for energy distribution costs. We also expect that there will be no discernable impact on the import of foreign energy supplies, and no other adverse outcomes are expected to occur with regards to energy supplies. All of the results presented above account for the pass through of costs to consumers, as well as the cost impact to producers. For more information on the estimated energy effects, please refer to the economic impact analysis for the final rule. The analysis is available in the public docket. It should be noted that these energy impact estimates are in advance of any facility demonstrating eligibility for the health-based compliance alternatives.

Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, the reduction in petroleum product output, which includes reductions in fuel production, could fall to 65 barrels per day, or only 0.001 percent. The reduction in coal production could fall to only 0.010 percent, or about 2.5 million tpy based on 2000 U.S. coal production nationwide. The combination of the increase in electricity usage estimated with the effect of the increased price of affected output could yield an increase in electricity output could fall to only 0.0067 percent, or about 0.40 billion kilowatt-hours per year based on 2000 U.S. electricity production nationwide. All energy price changes estimated could now fall to increases of no more than 0.04 percent nationwide, and a similar result occurs for energy distribution costs. There should be no discernable impact on import of foreign energy supplies, and no other adverse outcomes are expected to occur with regards to energy supplies. All of the results presented with presumption of the health-based compliance alternatives also account for the pass through of costs to consumers as well as the cost impact to producers.

Therefore, we conclude that the final rule when implemented is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

*I. National Technology Transfer and Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Pub. L. 104–113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs EPA to provide Congress, through annual reports to the OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.


Attachment I
Attachment I

The final rule involves technical standards. The EPA cites the following standards in the final rule: EPA Methods 1, 2, 2F, 2G, 3A, 3B, 4, 5, 5D, 17, 19, 26, 26A, 29 of 40 CFR part 60. Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these EPA methods. No applicable voluntary consensus standards were identified for EPA Methods 2F, 2G, 5D, and 19. The search and review results have been documented and are placed in the docket for the final rule.

The three voluntary consensus standards described below were identified as acceptable alternatives to EPA test methods for the purposes of the final rule.

The voluntary consensus standard ASME PTC 19–10–1981–Part 10, ''Flue and Exhaust Gas Analyses,'' is cited in the final rule for its manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas. This part of ASME PTC 19–10–1981–Part 10 is an acceptable alternative to Method 3B.

The voluntary consensus standard ASTM D6522–00, ''Standard Test Method for the 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'' is an acceptable alternative to EPA Methods 3A and 10 for identifying carbon monoxide and oxygen concentrations for the final rule when the fuel is natural gas.

The voluntary consensus standard ASTM Z65907, ''Standard Method for Both Speciated and Elemental Mercury Determination,'' is an acceptable alternative to EPA Method 29 (portion for mercury only) for the purpose of the final rule. This standard can be used in the final rule to determine the mercury concentration in stack gases for boilers with rated heat input capacities of greater than 250 MMBtu per hour.

In addition to the voluntary consensus standards EPA uses in the final rule, the search for emissions measurement procedures identified 15 other voluntary consensus standards. The EPA determined that 13 of these 15 standards identified for measuring emissions of the HAP or surrogates subject to the emission standards were impractical alternatives to EPA test methods for the purposes of the final rule. Therefore, EPA does not intend to adopt these standards for this purpose. (See Docket ID No. OAR–2002–0058 for further information on the methods.)

Two of the 15 voluntary consensus standards identified in this search were not available at the time the review was conducted for the purposes of the final rule because they are under development by a voluntary consensus body: ASME/BSR MFC 13M, ''Flow Measurement by Velocity Traverse,'' for EPA Method 2 (and possibly 1); and ASME/BSR MFC 12M, ''Flow in Closed Conduits Using Multiport Averaging Pitot Primary Flowmeters,'' for EPA Method 2.

Section 63.7520 and Tables 4A through 4D of the final rule list the EPA testing methods. Under § 63.7(f) and § 63.8(f) of subpart A, 40 CFR part 63, of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any of the EPA testing methods, performance specifications, or procedures.

*J. Congressional Review Act*

The Congressional Review Act, 5 U.S.C. 801, *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing the final rule and other required information to the United States Senate, the United States House of Representatives, and the Comptroller General of the United States prior to publication of the final rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is a ''major rule'' as defined by 5 U.S.C. section 804(2). The rule will be effective on November 12, 2004.

**List of Subjects in 40 CFR Part 63**

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: February 26, 2004.

**Michael O. Leavitt,**

*Administrator.*

■ For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

## PART 63—[AMENDED]

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

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

## Subpart A—[Amended]

■ 2. Section 63.14 is amended by revising paragraph (b)(27) and paragraph (i)(3) and adding paragraph (b)(35) and paragraphs (b)(39) through (53) to read as follows:

### § 63.14 Incorporations by reference.

* * * * *

(b) * * *

(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,[1] IBR approved for § 63.9307(c)(2), Table 4 of Subpart ZZZZ, and Table 5 to Subpart DDDDD of this part.

* * * * *

(35) 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),[1] IBR approved for Table 5 to Subpart DDDDD of this part.

* * * * *

(39) ASTM Method D388–99,$^{\epsilon 1}$ Standard Classification of Coals by Rank,[1] IBR approved for § 63.7575.

(40) ASTM D396–02a, Standard Specification for Fuel Oils,[1] IBR approved for § 63.7575.

(41) ASTM D1835–03a, Standard Specification for Liquified Petroleum (LP) Gases,[1] IBR approved for § 63.7575.

(42) ASTM D2013–01, Standard Practice for Preparing Coal Samples for Analysis,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(43) ASTM D2234–00, $^{\epsilon 1}$ Standard Practice for Collection of a Gross Sample of Coal,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(44) ASTM D3173–02, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(45) ASTM D3683–94 (Reapproved 2000), Standard Test Method for Trace Elements in Coal and Coke Ash Absorption,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(46) ASTM D3684–01, Standard Test Method for Total Mercury in Coal by the Oxygen Bomb Combustion/Atomic Absorption Method,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(47) ASTM D5198–92 (Reapproved 2003), Standard Practice for Nitric Acid Digestion of Solid Waste,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(48) ASTM D5865–03a, Standard Test Method for Gross Calorific Value of Coal and Coke,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(49) ASTM D6323–98 (Reapproved 2003), Standard Guide for Laboratory Subsampling of Media Related to Waste Management Activities,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(50) ASTM E711–87 (Reapproved 1996), Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(51) ASTM E776–87 (Reapproved 1996), Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(52) ASTM E871–82 (Reapproved 1998), Standard Method of Moisture Analysis of Particulate Wood Fuels,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(53) ASTM E885–88 (Reapproved 1996), Standard Test Methods for Analyses of Metals in Refuse-Derived Fuel by Atomic Absorption Spectroscopy,[1] IBR approved for Table 6 to Subpart DDDDD of this part 63.

* * * * *

(i) * * *

(3) ANSI/ASME PTC 19.10–1981, ''Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus],'' IBR approved for §§ 63.865(b), 63.3166(a), 63.3360(e)(1)(iii), 63.3545(a)(3), 63.3555(a)(3), 63.4166(a)(3), 63.4362(a)(3), 63.4766(a)(3), 63.4965(a)(3), 63.5160(d)(1)(iii), 63.9307(c)(2), 63.9323(a)(3), and Table 5 to Subpart DDDDD of this part.

* * * * *

■ 3. Part 63 is amended by adding subpart DDDDD to read as follows:

## Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Sec.

**What This Subpart Covers**

63.7480 What is the purpose of this subpart?
63.7485 Am I subject to this subpart?
63.7490 What is the affected source of this subpart?
63.7491 Are any boilers or process heaters not subject to this subpart?
63.7495 When do I have to comply with this subpart?

**Emission Limits and Work Practice Standards**

63.7499 What are the subcategories of boilers and process heaters?
63.7500 What emission limits, work practice standards, and operating limits must I meet?

**General Compliance Requirements**

63.7505 What are my general requirements for complying with this subpart?
63.7506 Do any boilers or process heaters have limited requirements?
63.7507 What are the health-based compliance alternatives for the hydrogen chloride (HCl) and total selected metals (TSM) standards?

**Testing, Fuel Analyses, and Initial Compliance Requirements**

63.7510 What are my initial compliance requirements and by what date must I conduct them?
63.7515 When must I conduct subsequent performance tests or fuel analyses?
63.7520 What performance tests and procedures must I use?
63.7521 What fuel analyses and procedures must I use?
63.7522 Can I use emission averaging to comply with this subpart?
63.7525 What are my monitoring, installation, operation, and maintenance requirements?
63.7530 How do I demonstrate initial compliance with the emission limits and work practice standards?

**Continuous Compliance Requirements**

63.7535 How do I monitor and collect data to demonstrate continuous compliance?
63.7540 How do I demonstrate continuous compliance with the emission limits and work practice standards?
63.7541 How do I demonstrate continuous compliance under the emission averaging provision?

**Notifications, Reports, and Records**

63.7545 What notifications must I submit and when?
63.7550 What reports must I submit and when?
63.7555 What records must I keep?
63.7560 In what form and how long must I keep my records?

**Other Requirements and Information**

63.7565 What parts of the General Provisions apply to me?
63.7570 Who implements and enforces this subpart?
63.7575 What definitions apply to this subpart?

**Tables to Subpart DDDDD of Part 63**

Table 1 to Subpart DDDDD of Part 63—Emission Limits and Work Practice Standards
Table 2 to Subpart DDDDD of Part 63—Operating Limits for Boilers and Process Heaters With Particulate Matter Emission Limits
Table 3 to Subpart DDDDD of Part 63—Operating Limits for Boilers and Process Heaters With Mercury Emission Limits and Boilers and Process Heaters That Choose to Comply With the Alternative Total Selected Metals Emission Limits
Table 4 to Subpart DDDDD of Part 63—Operating Limits for Boilers and Process Heaters With Hydrogen Chloride Emission Limits
Table 5 to Subpart DDDDD of Part 63—Performance Testing Requirements
Table 6 to Subpart DDDDD of Part 63—Fuel Analysis Requirements
Table 7 to Subpart DDDDD of Part 63—Establishing Operating Limits
Table 8 to Subpart DDDDD of Part 63—Demonstrating Continuous Compliance
Table 9 to Subpart DDDDD of Part 63—Reporting Requirements
Table 10 to Subpart DDDDD of Part 63—Applicability of General Provisions to Subpart DDDDD

**Appendix**

Appendix A to Subpart DDDDD—Methodology and Criteria for Demonstrating Eligibility for the Health-Based Compliance Alternatives Specified for the Large Solid Fuel Subcategory

## Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

### What This Subpart Covers

#### § 63.7480 What is the purpose of this subpart?

This subpart establishes national emission limits and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limits and work practice standards.

#### § 63.7485 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in § 63.7575 that is located at, or is part of, a major source of HAP as defined in § 63.2 or § 63.761 (40 CFR part 63, subpart HH, National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities), except as specified in § 63.7491.

#### § 63.7490 What is the affected source of this subpart?

(a) This subpart applies to new, reconstructed, or existing affected sources as described 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 and process heaters within a subcategory located at a major source as defined in § 63.7575.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or

process heater located at a major source as defined in § 63.7575.

(b) A boiler or process heater is new if you commence construction of the boiler or process heater after January 13, 2003, and you meet the applicability criteria at the time you commence construction.

(c) A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in § 63.2, you commence reconstruction after January 13, 2003, and you meet the applicability criteria at the time you commence reconstruction.

(d) A boiler or process heater is existing if it is not new or reconstructed.

**§ 63.7491 Are any boilers or process heaters not subject to this subpart?**

The types of boilers and process heaters listed in paragraphs (a) through (o) of this section are not subject to this subpart.

(a) A municipal waste combustor covered by 40 CFR part 60, subpart AAAA, subpart BBBB, subpart Cb or subpart Eb.

(b) A hospital/medical/infectious waste incinerator covered by 40 CFR part 60, subpart Ce or subpart Ec.

(c) An electric utility steam generating unit that is 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.

(d) A boiler or process heater required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by 40 CFR part 63, subpart EEE (*e.g.*, hazardous waste boilers).

(e) A commercial and industrial solid waste incineration unit covered by 40 CFR part 60, subpart CCCC or subpart DDDD.

(f) A recovery boiler or furnace covered by 40 CFR part 63, subpart MM.

(g) A boiler or process heater that is used specifically for research and development. This does not include units that only provide heat or steam to a process at a research and development facility.

(h) A hot water heater as defined in this subpart.

(i) A refining kettle covered by 40 CFR part 63, subpart X.

(j) An ethylene cracking furnace covered by 40 CFR part 63, subpart YY.

(k) Blast furnace stoves as described in the EPA document, entitled ''National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants—Background Information for Proposed Standards,'' (EPA–453/R–01–005).

(l) Any boiler and process heater specifically listed as an affected source in another standard(s) under 40 CFR part 63.

(m) Any boiler and process heater specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act (CAA).

(n) Temporary boilers as defined in this subpart.

(o) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.

**§ 63.7495 When do I have to comply with this subpart?**

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by November 12, 2004 or upon startup of your boiler or process heater, whichever is later.

(b) If you have an existing boiler or process heater, you must comply with this subpart no later than September 13, 2007.

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.

(1) Any new or reconstructed boiler or process heater at the existing facility must be in compliance with this subpart upon startup.

(2) Any existing boiler or process heater at the existing facility must be in compliance with this subpart within 3 years after the facility becomes a major source.

(d) You must meet the notification requirements in § 63.7545 according to the schedule in § 63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.

## Emission Limits and Work Practice Standards

**§ 63.7499 What are the subcategories of boilers and process heaters?**

The subcategories of boilers and process heaters are large solid fuel, limited use solid fuel, small solid fuel, large liquid fuel, limited use liquid fuel, small liquid fuel, large gaseous fuel, limited use gaseous fuel, and small gaseous fuel. Each subcategory is defined in § 63.7575.

**§ 63.7500 What emission limits, work practice standards, and operating limits must I meet?**

(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section.

(1) You must meet each emission limit and work practice standard in Table 1 to this subpart that applies to your boiler or process heater, except as provided under § 63.7507.

(2) You must meet each operating limit in Tables 2 through 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Tables 2 through 4 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).

(b) As provided in § 63.6(g), EPA may approve use of an alternative to the work practice standards in this section.

## General Compliance Requirements

**§ 63.7505 What are my general requirements for complying with this subpart?**

(a) You must be in compliance with the emission limits (including operating limits) and the work practice standards in this subpart at all times, except during periods of startup, shutdown, and malfunction.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in § 63.6(e)(1)(i).

(c) You can demonstrate compliance with any applicable emission limit using fuel analysis if the emission rate calculated according to § 63.7530(d) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using performance testing.

(d) If you demonstrate compliance with any applicable emission limit through performance testing, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(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 continuous monitoring system (CMS) required in this section, you must develop and submit to the EPA Administrator for approval a site-specific monitoring plan that addresses paragraphs (d)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan 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 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).

(2) In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1), (c)(3), and (c)(4)(ii);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and

(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.

(e) If you have an applicable emission limit or work practice standard, you must develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in § 63.6(e)(3).

### § 63.7506 Do any boilers or process heaters have limited requirements?

(a) New or reconstructed boilers and process heaters in the large liquid fuel subcategory or the limited use liquid fuel subcategory that burn only fossil fuels and other gases and do not burn any residual oil are subject to the emission limits and applicable work practice standards in Table 1 to this subpart. You are not required to conduct a performance test to demonstrate compliance with the emission limits. You are not required to set and maintain operating limits to demonstrate continuous compliance with the emission limits. However, you must meet the requirements in paragraphs (a)(1) and (2) of this section and meet the CO work practice standard in Table 1 to this subpart.

(1) To demonstrate initial compliance, you must include a signed statement in the Notification of Compliance Status report required in § 63.7545(e) that indicates you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels.

(2) To demonstrate continuous compliance with the applicable emission limits, you must also keep records that demonstrate that you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels. You must also include a signed statement in each semiannual compliance report required in § 63.7550 that indicates you burned only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels, during the reporting period.

(b) The affected boilers and process heaters listed in paragraphs (b)(1) through (3) of this section are subject to only the initial notification requirements in § 63.9(b) (*i.e.*, they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart or any other requirements in subpart A of this part).

(1) Existing large and limited use gaseous fuel units.

(2) Existing large and limited use liquid fuel units.

(3) New or reconstructed small liquid fuel units that burn only gaseous fuels or distillate oil. New or reconstructed small liquid fuel boilers and process heaters that commence burning of any other type of liquid fuel must comply with all applicable requirements of this subpart and subpart A of this part upon startup of burning the other type of liquid fuel.

(c) The affected boilers and process heaters listed in paragraphs (c)(1) through (4) of this section are not subject to the initial notification requirements in § 63.9(b) and are not subject to any requirements in this subpart or in subpart A of this part (*i.e.*, they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSM plans, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart, or any other requirements in subpart A of this part.

(1) Existing small solid fuel boilers and process heaters.

(2) Existing small liquid fuel boilers and process heaters.

(3) Existing small gaseous fuel boilers and process heaters.

(4) New or reconstructed small gaseous fuel units.

### § 63.7507 What are the health-based compliance alternatives for the hydrogen chloride (HCl) and total selected metals (TSM) standards?

(a) As an alternative to the requirement for large solid fuel boilers located at a single facility to demonstrate compliance with the HCl emission limit in Table 1 to this subpart, you may demonstrate eligibility for the health-based compliance alternative for HCl emissions under the procedures prescribed in appendix A to this subpart.

(b) In lieu of complying with the TSM emission standards in Table 1 to this subpart based on the sum of emissions for the eight selected metals, you may demonstrate eligibility for complying with the TSM emission standards in Table 1 based on the sum of emissions for seven selected metals (by excluding manganese emissions from the summation of TSM emissions) under the procedures prescribed in appendix A to this subpart.

## Testing, Fuel Analyses, and Initial Compliance Requirements

### § 63.7510 What are my initial compliance requirements and by what date must I conduct them?

(a) For affected sources that elect to demonstrate compliance with any of the emission limits of this subpart through performance testing, your initial compliance requirements include conducting performance tests according to § 63.7520 and Table 5 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler or process heater according to § 63.7521 and Table 6 to this subpart, establishing operating limits according to § 63.7530 and Table 7 to this subpart, and conducting CMS performance evaluations according to § 63.7525.

(b) For affected sources that elect to demonstrate compliance with the emission limits for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to § 63.7521 and Table 6 to this subpart and establish operating limits according to § 63.7530 and Table 8 to this subpart.

(c) For affected sources that have an applicable work practice standard, your initial compliance requirements depend on the subcategory and rated capacity of your boiler or process heater. If your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, your initial compliance demonstration is conducting a performance test for carbon monoxide

according to Table 5 to this subpart. If your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, your initial compliance demonstration is conducting a performance evaluation of your continuous emission monitoring system for carbon monoxide according to § 63.7525(a).

(d) For existing affected sources, you must demonstrate initial compliance no later than 180 days after the compliance date that is specified for your source in § 63.7495 and according to the applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart.

(e) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003 and November 12, 2004, you must demonstrate initial compliance with either the proposed emission limits and work practice standards or the promulgated emission limits and work practice standards no later than 180 days after November 12, 2004 or within 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(f) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003, and November 12, 2004, and you chose to comply with the proposed emission limits and work practice standards when demonstrating initial compliance, you must conduct a second compliance demonstration for the promulgated emission limits and work practice standards within 3 years after November 12, 2004 or within 3 years after startup of the affected source, whichever is later.

(g) If your new or reconstructed affected source commences construction or reconstruction after November 12, 2004, you must demonstrate initial compliance with the promulgated emission limits and work practice standards no later than 180 days after startup of the source.

### § 63.7515 When must I conduct subsequent performance tests or fuel analyses?

(a) You must conduct all applicable performance tests according to § 63.7520 on an annual basis, unless you follow the requirements listed in paragraphs (b) through (d) of this section. Annual performance tests must be completed between 10 and 12 months after the previous performance test, unless you follow the requirements listed in paragraphs (b) through (d) of this section.

(b) You can conduct performance tests less often for a given pollutant if your performance tests for the pollutant (particulate matter, HCl, mercury, or TSM) for at least 3 consecutive years show that you comply with the emission limit. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months after the previous performance test.

(c) If your boiler or process heater continues to meet the emission limit for particulate matter, HCl, mercury, or TSM, you may choose to conduct performance tests for these pollutants every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.

(d) If a performance test shows noncompliance with an emission limit for particulate matter, HCl, mercury, or TSM, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

(e) If you have an applicable work practice standard for carbon monoxide and your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, you must conduct annual performance tests for carbon monoxide according to § 63.7520. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

(f) You must conduct a fuel analysis according to § 63.7521 for each type of fuel burned no later than 5 years after the previous fuel analysis for each fuel type. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in § 63.7540.

(g) You must report the results of performance tests and fuel analyses within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for your affected source have not changed or provide documentation of revised operating parameters established according to § 63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests and fuel analyses should include all applicable information required in § 63.7550.

### § 63.7520 What performance tests and procedures must I use?

(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) if you elect to demonstrate compliance through performance testing.

(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.

(c) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to § 63.7506(a).

(d) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at the maximum normal operating load while burning the type of fuel or mixture of fuels that have the highest content of chlorine, mercury, and total selected metals, and you must demonstrate initial compliance and establish your operating limits based on these tests. These requirements could result in the need to conduct more than one performance test.

(e) You may not conduct performance tests during periods of startup, shutdown, or malfunction.

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

(g) 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 to part 60 of this chapter to convert the measured particulate matter concentrations, the measured HCl concentrations, the measured TSM concentrations, and the measured mercury concentrations that result from the initial performance test to pounds per million Btu heat input emission rates using F-factors.

### § 63.7521 What fuel analyses and procedures must I use?

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable.

(b) You must develop and submit a site-specific fuel analysis plan to the EPA Administrator for review and approval according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section.

(1) You must submit the fuel analysis plan no later than 60 days before the date that you intend to demonstrate compliance.

(2) You must include the information contained in paragraphs (b)(2)(i)

through (vi) of this section in your fuel analysis plan.

(i) The identification of all fuel types anticipated to be burned in each boiler or process heater.

(ii) For each fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis.

(iii) For each fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from paragraph (c) or (d) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types.

(iv) For each fuel type, the analytical methods, with the expected minimum detection levels, to be used for the measurement of selected total metals, chlorine, or mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that will be used.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(c) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section.

(1) If sampling from a belt (or screw) feeder, collect fuel samples according to paragraphs (c)(1)(i) and (ii) of this section.

(i) Stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. Collect all the material (fines and coarse) in the full cross-section. Transfer the sample to a clean plastic bag.

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal intervals during the testing period.

(2) If sampling from a fuel pile or truck, collect fuel samples according to paragraphs (c)(2)(i) through (iii) of this section.

(i) For each composite sample, select a minimum of five sampling locations uniformly spaced over the surface of the pile.

(ii) At each sampling site, dig into the pile to a depth of 18 inches. Insert a clean flat square shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling.

(iii) Transfer all samples to a clean plastic bag for further processing.

(d) Prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section.

(1) Throughly mix and pour the entire composite sample over a clean plastic sheet.

(2) Break sample pieces larger than 3 inches into smaller sizes.

(3) Make a pie shape with the entire composite sample and subdivide it into four equal parts.

(4) Separate one of the quarter samples as the first subset.

(5) If this subset is too large for grinding, repeat the procedure in paragraph (d)(3) of this section with the quarter sample and obtain a one-quarter subset from this sample.

(6) Grind the sample in a mill.

(7) Use the procedure in paragraph (d)(3) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure.

(e) Determine the concentration of pollutants in the fuel (mercury, chlorine, and/or total selected metals) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart.

**§ 63.7522 Can I use emission averaging to comply with this subpart?**

(a) As an alternative to meeting the requirements of § 63.7500, if you have more than one existing large solid fuel boiler located at your facility, you may demonstrate compliance by emission averaging according to the procedures in this section in a State that does not choose to exclude emission averaging.

(b) For each existing large solid fuel boiler in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on November 12, 2004 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on November 12, 2004.

(c) You may average particulate matter or TSM, HCl, and mercury emissions from existing large solid fuel boilers to demonstrate compliance with the limits in Table 1 to this subpart if you satisfy the requirements in paragraphs (d), (e), and (f) of this section.

(d) The weighted average emissions from the existing large solid fuel boilers participating in the emissions averaging option must be in compliance with the limits in Table 1 to this subpart at all times following the compliance date specified in § 63.7495.

(e) You must demonstrate initial compliance according to paragraphs (e)(1) or (2) of this section.

(1) You must use Equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n}(\text{Er} \times \text{Hm}) \div \sum_{i=1}^{n}\text{Hm} \qquad \text{(Eq. 1)}$$

Where:

AveWeighted = Average weighted emissions for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Hm = Maximum rated heat input capacity of boiler, i, in units of million Btu per hour.

n = Number of large solid fuel boilers participating in the emissions averaging option.

(2) If you are not capable of monitoring heat input, you can use Equation 2 of this section as an alternative to using equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n}(\text{Er} \times \text{Sm} \times \text{Cf}) \div \sum_{i=1}^{n}\text{Sm} \times \text{Cf} \qquad \text{(Eq. 2)}$$

Where:

AveWeighted = Average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Sm = Maximum steam generation by boiler, i, in units of pounds.

Cf = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of steam generated.

(f) You must demonstrate continuous compliance on a 12-month rolling average basis determined at the end of every month (12 times per year) according to paragraphs (f)(1) and (2). The first 12-month rolling-average period begins on the compliance date specified in § 63.7495.

(1) For each calendar month, you must use Equation 3 of this section to calculate the 12-month rolling average weighted emission limit using the actual heat capacity for each existing large solid fuel boiler participating in the emissions averaging option.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n}(\text{Er} \times \text{Hb}) \div \sum_{i=1}^{n}\text{Hb} \qquad \text{(Eq. 3)}$$

Where:

AveWeighted Emissions = 12-month rolling average weighted emission level for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate, calculated during the most recent compliance test, (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Hb = The average heat input for each calendar month of boiler, i, in units of million Btu.

n = Number of large solid fuel boilers participating in the emissions averaging option.

(2) If you are not capable of monitoring heat input, you can use Equation 4 of this section as an alternative to using Equation 3 of this section to calculate the 12-month rolling average weighted emission limit using the actual steam generation from the large solid fuel boilers participating in the emissions averaging option.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n}(\text{Er} \times \text{Sa} \times \text{Cf}) \div \sum_{i=1}^{n}\text{Sa} \times \text{Cf} \qquad \text{(Eq. 4)}$$

Where:

AveWeighted Emissions = 12-month rolling average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate, calculated during the most recent compliance test (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Sa = Actual steam generation for each calender month by boiler, i, in units of pounds.

Cf = Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of steam generated.

(g) You must develop and submit an implementation plan for emission averaging to the applicable regulatory authority for review and approval according to the following procedures and requirements in paragraphs (g)(1) through (4).

(1) You must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

(2) You must include the information contained in paragraphs (g)(2)(i) through (vii) of this section in your implementation plan for all emission sources included in an emissions average:

(i) The identification of all existing large solid fuel boilers in the averaging group, including for each either the applicable HAP emission level or the control technology installed on;

(ii) The process parameter (heat input or steam generated) that will be monitored for each averaging group of large solid fuel boilers;

(iii) The specific control technology or pollution prevention measure to be used for each emission source in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple sources, the owner or operator must identify each source;

(iv) The test plan for the measurement of particulate matter (or TSM), HCl, or mercury emissions in accordance with the requirements in § 63.7520;

(v) The operating parameters to be monitored for each control system or device and a description of how the operating limits will be determined;

(vi) If you request to monitor an alternative operating parameter pursuant to § 63.7525, you must also include:

(A) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the parameter(s); and

(B) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device; the frequency and content of monitoring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the applicable regulatory authority, that the proposed monitoring frequency is sufficient to represent control device operating conditions; and

(vii) A demonstration that compliance with each of the applicable emission limit(s) will be achieved under representative operating conditions.

(3) Upon receipt, the regulatory authority shall review and approve or disapprove the plan according to the following criteria:

(i) Whether the content of the plan includes all of the information specified in paragraph (g)(2) of this section; and

(ii) Whether the plan presents sufficient information to determine that compliance will be achieved and maintained.

(4) The applicable regulatory authority shall not approve an emission averaging implementation plan containing any of the following provisions:

(i) Any averaging between emissions of differing pollutants or between differing sources; or

(ii) The inclusion of any emission source other than an existing large solid fuel boiler.

**§ 63.7525 What are my monitoring, installation, operation, and maintenance requirements?**

(a) If you have an applicable work practice standard for carbon monoxide, and your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, you must install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide according to the procedures in paragraphs (a)(1) through (6) of this section by the compliance date specified in § 63.7495.

(1) Each CEMS must be installed, operated, and maintained according to Performance Specification (PS) 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to § 63.7505(d).

(2) You must conduct a performance evaluation of each CEMS according to the requirements in § 63.8 and according to PS 4A of 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2).

(5) You must calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

(6) For purposes of calculating data averages, you must not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when your boiler or process heater is operating at less than 50 percent of its rated capacity. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(b) If you have an applicable opacity operating limit, you must install, operate, certify and maintain each continuous opacity monitoring system (COMS) according to the procedures in paragraphs (b)(1) through (7) of this section by the compliance date specified in § 63.7495.

(1) Each COMS must be installed, operated, and maintained according to PS 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 PS 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). 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 determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.

(c) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to the procedures in paragraphs (c)(1) through (5) of this section by the compliance date specified in § 63.7495.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.

(2) Except for monitoring malfunctions, associated repairs, and required quality assurance or control

activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(3) For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out of control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(4) Determine the 3-hour block average of all recorded readings, except as provided in paragraph (c)(3) of this section.

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

(d) If you have an operating limit that requires the use of a flow measurement device, you must meet the requirements in paragraphs (c) and (d)(1) through (4) of this section.

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

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

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

(4) Conduct a flow sensor calibration check at least semiannually.

(e) If you have an operating limit that requires the use of a pressure measurement device, you must meet the requirements in paragraphs (c) and (e)(1) through (6) of this section.

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

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

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

(4) Check pressure tap pluggage daily.

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

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

(f) If you have an operating limit that requires the use of a pH measurement device, you must meet the requirements in paragraphs (c) and (f)(1) through (3) of this section.

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

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

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

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

(h) If you have an operating limit that requires the use of equipment to monitor sorbent injection rate (*e.g.*, weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (c) and (h)(1) through (3) of this section.

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

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

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

(i) If you elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (i)(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 the guidance provided in EPA–454/R–98–015, September 1997.

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

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

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

**§ 63.7530 How do I demonstrate initial compliance with the emission limits and work practice standards?**

(a) You must demonstrate initial compliance with each emission limit and work practice standard that applies to you by either conducting initial performance tests and establishing operating limits, as applicable, according to § 63.7520, paragraph (c) of this section, and Tables 5 and 7 to this subpart OR conducting initial fuel analyses to determine emission rates and establishing operating limits, as applicable, according to § 63.7521, paragraph (d) of this section, and Tables 6 and 8 to this subpart.

(b) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to § 63.7506(a).

(c) If you demonstrate compliance through performance testing, you must establish each site-specific operating limit in Tables 2 through 4 to this subpart that applies to you according to the requirements in § 63.7520, Table 7 to this subpart, and paragraph (c)(4) of this section, as applicable. You must also conduct fuel analyses according to § 63.7521 and establish maximum fuel pollutant input levels according to paragraphs (c)(1) through (3) of this section, as applicable.

(1) You must establish the maximum chlorine fuel input ($C_{input}$) during the initial performance testing according to the procedures in paragraphs (c)(1)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in

your boiler or process heater that has the highest content of chlorine.

(ii) During the performance testing for HCl, you must determine the fraction of the total heat input for each fuel type burned ($Q_i$) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned ($C_i$).

(iii) You must establish a maximum chlorine input level using Equation 5 of this section.

$$Cl_{input} = \sum_{i=1}^{n}\left[(C_i)(Q_i)\right] \qquad \text{(Eq. 5)}$$

Where:

$Cl_{input}$ = Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.

$C_i$ = Arithmetic average concentration of chlorine in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

$Q_i$ = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of ''1'' for $Q_i$.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

(2) If you choose to comply with the alternative TSM emission limit instead of the particulate matter emission limit, you must establish the maximum TSM fuel input level ($TSM_{input}$) during the initial performance testing according to the procedures in paragraphs (c)(2)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of TSM.

(ii) During the performance testing for TSM, you must determine the fraction of total heat input from each fuel burned ($Q_i$) based on the fuel mixture that has the highest content of total selected metals, and the average TSM concentration of each fuel type burned ($M_i$).

(iii) You must establish a baseline TSM input level using Equation 6 of this section.

$$TSM_{input} = \sum_{i=1}^{n}\left[(M_i)(Q_i)\right] \qquad \text{(Eq. 6)}$$

Where:

$TSM_{input}$ = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.

$M_i$ = Arithmetic average concentration of TSM in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

$Q_i$ = Fraction of total heat input from based fuel type, i, based on the fuel mixture that has the highest content of TSM. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of ''1'' for $Q_i$.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(3) You must establish the maximum mercury fuel input level ($Mercury_{input}$) during the initial performance testing using the procedures in paragraphs (c)(3)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury.

(ii) During the compliance demonstration for mercury, you must determine the fraction of total heat input for each fuel burned ($Q_i$) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned ($HG_i$).

(iii) You must establish a maximum mercury input level using Equation 7 of this section.

$$Mercury_{input} = \sum_{i=1}^{n}\left[(HG_i)(Q_i)\right] \qquad \text{(Eq. 7)}$$

Where:

$Mercury_{input}$ = Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.

$HG_i$ = Arithmetic average concentration of mercury in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

$Q_i$ = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of ''1'' for $Q_i$.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of mercury.

(4) You must establish parameter operating limits according to paragraphs (c)(4)(i) through (iv) of this section.

(i) For a wet scrubber, you must establish the minimum scrubber effluent pH, liquid flowrate, and pressure drop as defined in § 63.7575, as your operating limits during the three-run performance test. If you use a wet scrubber and you conduct separate performance tests for particulate matter, HCl, and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flowrate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flowrate and pressure drop operating limits at the highest minimum values established during the performance tests.

(ii) For an electrostatic precipitator, you must establish the minimum voltage and secondary current (or total power input), as defined in § 63.7575, as your operating limits during the three-run performance test.

(iii) For a dry scrubber, you must establish the minimum sorbent injection rate, as defined in § 63.7575, as your operating limit during the three-run performance test.

(iv) The operating limit for boilers or process heaters with fabric filters that choose to demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in § 63.7525, 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.

(d) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to § 63.7521 and follow the procedures in paragraphs (d)(1) through (5) of this section.

(1) If you burn more than one fuel type, you must determine the fuel mixture you could burn in your boiler or process heater that would result in the maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis.

(2) You must determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided z-statistic test described in Equation 8 of this section.

$$P_{90} = \text{mean} + (SD \times t) \qquad \text{(Eq. 8)}$$

Where:

$P_{90}$ = 90th percentile confidence level pollutant concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to § 63.7521, in units of pounds per million Btu.

SD = Standard deviation of the pollutant concentration in the fuel samples analyzed according to § 63.7521, 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 emission limit for HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 9 of this section must be less than the applicable emission limit for HCl.

$$HCl = \sum_{i=1}^{n}\left[\left(C_{i90}\right)\left(Q_i\right)\left(1.028\right)\right] \qquad \text{(Eq. 9)}$$

Where:

HCl = HCl emission rate from the boiler or process heater in units of pounds per million Btu.

$C_{i90}$ = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

$Q_i$ = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of ''1'' for $Q_i$.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

1.028 = Molecular weight ratio of HCl to chlorine.

(4) To demonstrate compliance with the applicable emission limit for TSM, the TSM emission rate that you calculate for your boiler or process heater using Equation 10 of this section must be less than the applicable emission limit for TSM.

$$TSM = \sum_{i=1}^{n}\left[\left(M_{i90}\right)\left(Q_i\right)\right] \qquad \text{(Eq. 10)}$$

Where:

TSM = TSM emission rate from the boiler or process heater in units of pounds per million Btu.

$M_{i90}$ = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

$Q_i$ = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of total selected metals. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of ''1'' for $Q_i$.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(5) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 11 of this section must be less than the applicable emission limit for mercury.

$$Mercury = \sum_{i=1}^{n}\left[\left(HG_{i90}\right)\left(Q_i\right)\right] \qquad \text{(Eq. 11)}$$

Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.

$HG_{i90}$ = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

$Q_i$ = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of ''1'' for $Q_i$.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.

(e) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.7545(e).

## Continuous Compliance Requirements

### § 63.7535 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.7505(d).

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system. Boilers and process heaters that have an applicable carbon monoxide work practice standard and are required to install and operate a CEMS, may not use data recorded during periods when the boiler or process heater is operating at less than 50 percent of its rated capacity.

### § 63.7540 How do I demonstrate continuous compliance with the emission limits and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (10) of this section.

(1) Following the date on which the initial performance test is completed or is required to be completed under §§ 63.7 and 63.7510, whichever date comes first, you must not operate above any of the applicable maximum operating limits or below any of the applicable minimum operating limits listed in Tables 2 through 4 to this subpart at all times except during periods of startup, shutdown and malfunction. Operating limits do not apply during performance tests. Operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits.

(2) You must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would either result in lower emissions of TSM, HCl, and mercury, than the applicable emission limit for each pollutant (if you demonstrate compliance through fuel analysis), or result in lower fuel input of TSM, chlorine, and mercury than the maximum values calculated during the last performance tests (if you demonstrate compliance through performance testing).

(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis and you plan to burn a new type of fuel, you must recalculate the HCl emission rate using Equation 9 of § 63.7530 according to paragraphs (a)(3)(i) through (iii) of this section.

(i) You must determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to § 63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of chlorine.

(iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 9 of § 63.7530. The recalculated HCl emission rate must be less than the applicable emission limit.

(4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel type or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 5 of § 63.7530. If the results of recalculating the maximum chlorine input using Equation 5 of § 63.7530 are higher than the maximum chlorine input level established 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 § 63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(c).

(5) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 10 of § 63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section.

(i) You must determine the TSM concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to § 63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of TSM.

(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 10 of § 63.7530. The recalculated TSM emission rate must be less than the applicable emission limit.

(6) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum TSM input using Equation 6 of § 63.7530. If the results of recalculating the maximum total selected metals input using Equation 6 of § 63.7530 are higher than the maximum TSM input level established 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 § 63.7520 to demonstrate that the TSM emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(c).

(7) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 11 of § 63.7530 according to the procedures specified in paragraphs (a)(7)(i) through (iii) of this section.

(i) You must determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to § 63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of mercury.

(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 11 of § 63.7530. The recalculated mercury emission rate must be less than the applicable emission limit.

(8) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 7 of § 63.7530. If the results of recalculating the maximum mercury input using Equation 7 of § 63.7530 are higher than the maximum mercury input level established 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 § 63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(c).

(9) 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 complete corrective actions according to your SSMP, 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 shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken to initiate corrective action.

(10) If you have an applicable work practice standard for carbon monoxide, and you are required to install a CEMS according to § 63.7525(a), then you must meet the requirements in paragraphs (a)(10)(i) through (iii) of this section.

(i) You must continuously monitor carbon monoxide according to §§ 63.7525(a) and 63.7535.

(ii) Maintain a carbon monoxide emission level below your applicable carbon monoxide work practice standard in Table 1 to this subpart at all times except during periods of startup, shutdown, malfunction, and when your boiler or process heater is operating at less than 50 percent of rated capacity.

(iii) Keep records of carbon monoxide levels according to § 63.7555(b).

(b) You must report each instance in which you did not meet each emission limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that apply to you. You must also report each instance during a startup, shutdown, or malfunction when you did not meet each applicable emission limit, operating limit, and work practice standard. These instances are deviations from the emission limits and work practice standards in this subpart. These deviations must be reported according to the requirements in § 63.7550.

(c) During periods of startup, shutdown, and malfunction, you must operate in accordance with the SSMP as required in § 63.7505(e).

(d) Consistent with §§ 63.6(e)and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with your SSMP. The EPA Administrator will determine whether

deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in § 63.6(e).

### § 63.7541 How do I demonstrate continuous compliance under the emission averaging provision?

(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (4) of this section.

(1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing large solid fuel boilers participating in the emissions averaging option as determined in § 63.7522(f) and (g);

(2) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a dry control system, maintain opacity at or below the applicable limit;

(3) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 3-hour average parameter values at or below the operating limits established during the most recent performance test; and

(4) For each existing solid fuel boiler participating in the emissions averaging option that has an approved alternative operating plan, maintain the 3-hour average parameter values at or below the operating limits established in the most recent performance test.

(b) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (4) of this section, except during periods of startup, shutdown, and malfunction, is a deviation.

## Notification, Reports, and Records

### § 63.7545 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply to you by the dates specified.

(b) As specified in § 63.9(b)(2), if you startup your affected source before November 12, 2004, you must submit an Initial Notification not later than 120 days after November 12, 2004. The Initial Notification must include the information required in paragraphs (b)(1) and (2) of this section, as applicable.

(1) If your affected source has an annual capacity factor of greater than 10 percent, your Initial Notification must include the information required by § 63.9(b)(2).

(2) If your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories (the limited use solid fuel subcategory, the limited use liquid fuel subcategory, or the limited use gaseous fuel subcategory), your Initial Notification must include the information required by § 63.9(b)(2) and also a signed statement indicating your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent.

(c) As specified in § 63.9(b)(4) and (b)(5), if you startup your new or reconstructed affected source on or after November 12, 2004, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.

(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin.

(e) If you are required to conduct an initial compliance demonstration as specified in § 63.7530(a), you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). For each initial compliance demonstration, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of the performance test and/or other initial compliance demonstrations according to § 63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (9), as applicable.

(1) A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.

(2) Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.

(3) Identification of whether you are complying with the particulate matter emission limit or the alternative total selected metals emission limit.

(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing or fuel analysis.

(5) Identification of whether you plan to demonstrate compliance by emissions averaging.

(6) A signed certification that you have met all applicable emission limits and work practice standards.

(7) A summary of the carbon monoxide emissions monitoring data and the maximum carbon monoxide emission levels recorded during the performance test to show that you have met any applicable work practice standard in Table 1 to this subpart.

(8) If your new or reconstructed boiler or process heater is in one of the liquid fuel subcategories and burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels, you must submit a signed statement certifying this in your Notification of Compliance Status report.

(9) If you had a deviation from any emission limit or work practice standard, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.

### § 63.7550 What reports must I submit and when?

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in § 63.7495.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.7495.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered

no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information required in paragraphs (c)(1) through (11) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure.

(5) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable.

(6) A signed statement indicating that you burned no new types of fuel. Or, if you did burn a new type of fuel, you must submit the calculation of chlorine input, using Equation 5 of § 63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 9 of § 63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of TSM input, using Equation 6 of § 63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate using Equation 10 of § 63.7530 that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of mercury input, using Equation 7 of § 63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 11 of § 63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(7) If you wish to burn a new type of fuel and you can not demonstrate compliance with the maximum chlorine input operating limit using Equation 5 of § 63.7530, the maximum TSM input operating limit using Equation 6 of § 63.7530, or the maximum mercury input operating limit using Equation 7 of § 63.7530, you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(8) The hours of operation for each boiler and process heater that is subject to an emission limit for each calendar month within the semiannual reporting period. This requirement applies only to limited use boilers and process heaters.

(9) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in § 63.10(d)(5)(i).

(10) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, and there are no deviations from the requirements for work practice standards in this subpart, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.

(11) If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMSs were out of control during the reporting period.

(d) For each deviation from an emission limit or operating limit in this subpart and for each deviation from the requirements for work practice standards in this subpart that occurs at an affected source where you are not using a CMSs to comply with that emission limit, operating limit, or work practice standard, the compliance report must contain the information in paragraphs (c)(1) through (10) of this section and the information required in paragraphs (d)(1) through (4) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The total operating time of each affected source during the reporting period.

(2) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.

(3) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

(4) A copy of the test report if the annual performance test showed a deviation from the emission limit for particulate matter or the alternative TSM limit, a deviation from the HCl emission limit, or a deviation from the mercury emission limit.

(e) For each deviation from an emission limitation and operating limit or work practice standard in this subpart occurring at an affected source where you are using a CMS to comply with that emission limit, operating limit, or work practice standard, you must include the information in paragraphs (c) (1) through (10) of this section and the information required in paragraphs (e) (1) through (12) of this section. This includes periods of startup, shutdown, and malfunction and any deviations from your site-specific monitoring plan as required in § 63.7505(d).

(1) The date and time that each malfunction started and stopped and description of the nature of the deviation (*i.e.*, what you deviated from).

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out of control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems,

process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMSs downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) An identification of each parameter that was monitored at the affected source for which there was a deviation, including opacity, carbon monoxide, and operating parameters for wet scrubbers and other control devices.

(9) A brief description of the source for which there was a deviation.

(10) A brief description of each CMS for which there was a deviation.

(11) The date of the latest CMS certification or audit for the system for which there was a deviation.

(12) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you operate a new gaseous fuel unit that is subject to the work practice standard specified in Table 1 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected unit, you must submit a notification of alternative fuel use within 48 hours of the declaration of a period of natural gas curtailment or supply interruption, as defined in § 63.7575. The notification must include the information specified in paragraphs (g)(1) through (5) of this section.

(1) Company name and address.

(2) Identification of the affected unit.

(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

(4) Type of alternative fuel that you intend to use.

(5) Dates when the alternative fuel use is expected to begin and end.

**§ 63.7555 What records must I keep?**

(a) You must keep records according to paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) The records in § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, fuel analyses, or other compliance demonstrations, performance evaluations, and opacity observations as required in § 63.10(b)(2)(viii).

(b) For each CEMS, CPMS, and COMS, you must keep records according to paragraphs (b)(1) through (5) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in § 63.6(h)(7)(i) and (ii).

(3) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(4) Request for alternatives to relative accuracy test for CEMS as required in § 63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, carbon monoxide, and pH to show continuous compliance with each emission limit, operating limit, and work practice standard that applies to you.

(d) For each boiler or process heater subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (5) of this section.

(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.

(2) You must keep records of monthly hours of operation by each boiler or process heater. This requirement applies only to limited-use boilers and process heaters.

(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 5 of § 63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 9 of § 63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.

(4) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 6 of § 63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 10 of § 63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.

(5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 7 of § 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 11 of § 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should

include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.

(e) If your boiler or process heater is subject to an emission limit or work practice standard in Table 1 to this subpart and has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories, you must keep the records in paragraphs (e)(1) and (2) of this section.

(1) A copy of the federally enforceable permit that limits the annual capacity factor of the source to less than or equal to 10 percent.

(2) Fuel use records for the days the boiler or process heater was operating.

### § 63.7560 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records off site for the remaining 3 years.

## Other Requirements and Information

### § 63.7565 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

### § 63.7570 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by U.S. EPA, or a delegated authority 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 (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency, however, the U.S. EPA retains oversight of this subpart and can take enforcement actions, as appropriate.

(1) Approval of alternatives to the non-opacity emission limits and work practice standards in § 63.7500(a) and (b) under § 63.6(g).

(2) Approval of alternative opacity emission limits in § 63.7500(a) under § 63.6(h)(9).

(3) Approval of major change to test methods in Table 5 to this subpart under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(4) Approval of major change to monitoring under § 63.8(f) and as defined in § 63.90.

(5) Approval of major change to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

### § 63.7575 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in § 63.2 (the General Provisions), and in this section as follows:

*Annual capacity factor* means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year, and the potential heat input to the boiler or process heater had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.

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

*Biomass fuel* means unadulterated wood as defined in this subpart, wood residue, and wood products (*e.g.*, trees, tree stumps, tree limbs, bark, lumber, sawdust, sanderdust, chips, scraps, slabs, millings, and shavings); animal litter; 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.

*Blast furnace gas fuel-fired boiler or process heater* means an industrial/commercial/institutional boiler or process heater that receives 90 percent or more of its total heat input (based on an annual average) from blast furnace gas.

*Boiler* means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded from this definition.

*Coal* means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388–991 $^{\epsilon 1}$, ''Standard Specification for Classification of Coals by Rank $^{1}$'' (incorporated by reference, see § 63.14(b)), coal refuse, and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat including but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures, for the purposes of this subpart. Coal derived gases are excluded from this definition.

*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 (6,000 Btu per pound) on a dry basis.

*Commercial/institutional boiler* means a boiler used in commercial establishments or institutional establishments such as medical centers, research centers, institutions of higher education, hotels, and laundries to provide electricity, steam, and/or hot water.

*Construction/demolition material* means waste building material that result from the construction or demolition operations on houses and commercial and industrial buildings.

*Deviation.* (1) Deviation 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 requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard;

(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; or

(iii) Fails to meet any emission limit, operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless or whether or not such failure is permitted by this subpart.

(2) A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the

standard is up to the discretion of the entity responsible for enforcement of the standards.

*Distillate oil* means fuel oils, including recycled oils, that comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D396–02a, ''Standard Specifications for Fuel Oils [1]'' (incorporated by reference, see § 63.14(b)).

*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 in fluidized bed boilers and process heaters are included in this definition.

*Electric utility steam generating unit* 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.

*Electrostatic precipitator* 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.

*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.

*Federally enforceable* means all limitations and conditions that are enforceable by the EPA 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 40 CFR 51.24.

*Firetube boiler* means a boiler in which hot gases of combustion pass through the tubes and water contacts the outside surfaces of the tubes.

*Fossil fuel* means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials.

*Fuel type* means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, subbituminous coal, lignite, anthracite, biomass, construction/demolition material, salt water laden wood, creosote treated wood, tires, residual oil. Individual fuel types received from different suppliers are not considered new fuel types except for construction/demolition material.

*Gaseous fuel* includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Blast furnace gas is exempted from this definition.

*Heat input* means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.

*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 or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F (99°C).

*Industrial boiler* means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

*Large gaseous fuel subcategory* includes any watertube boiler or process heater that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

*Large liquid fuel subcategory* includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent. Large gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

*Large solid fuel subcategory* includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

*Limited use gaseous fuel subcategory* includes any watertube boiler or process heater that burns gaseous fuels not combined with any liquid or solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

*Limited use liquid fuel subcategory* includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent. Limited use gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

*Limited use solid fuel subcategory* includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

*Liquid fossil fuel* means petroleum, distillate oil, residual oil and any form of liquid fuel derived from such material.

*Liquid fuel* includes, but is not limited to, distillate oil, residual oil, waste oil, and process liquids.

*Minimum pressure drop* means 90 percent of the lowest test-run average pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

*Minimum scrubber effluent pH* means 90 percent of the lowest test-run average effluent pH measured at the outlet of the wet scrubber according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable hydrogen chloride emission limit.

*Minimum scrubber flow rate* means 90 percent of the lowest test-run average flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

*Minimum sorbent flow rate* means 90 percent of the lowest test-run average sorbent (or activated carbon) flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.


Attachment I
Attachment I

*Minimum voltage or amperage* means 90 percent of the lowest test-run average voltage or amperage to the electrostatic precipitator measured according to Table 7 to this subpart during the most recent performance 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) Liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835–03a, ''Standard Specification for Liquid Petroleum Gases'' (incorporated by reference, see § 63.14(b)).

*Opacity* means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

*Particulate matter* means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an alternative method.

*Period of natural gas curtailment or supply interruption* means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption.

*Process heater* means an enclosed device using controlled flame, that is not a boiler, 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 for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves.

*Residual oil* means crude oil, and all fuel oil numbers 4, 5 and 6, as defined by the American Society for Testing and Materials in ASTM D396–02a, ''Standard Specifications for Fuel Oils [1]'' (incorporated by reference, see § 63.14(b)).

*Responsible official* means responsible official as defined in 40 CFR 70.2.

*Small gaseous fuel subcategory* includes any firetube boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and any boiler or process heater that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

*Small liquid fuel subcategory* includes any firetube boiler that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and any boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input. Small gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

*Small solid fuel subcategory* includes any firetube boiler that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, and any other boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

*Solid fuel* includes, but is not limited to, coal, wood, biomass, tires, plastics, and other nonfossil solid materials.

*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. A temporary boiler that remains at a location for more than 180 consecutive days is no longer considered to be a temporary boiler. Any temporary boiler that replaces a temporary boiler at a location and is intended to perform the same or similar function will be included in calculating the consecutive time period.

*Total selected metals* means the combination of the following metallic HAP: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.

*Unadulterated wood* means wood or wood products that have not been painted, pigment-stained, or pressure treated with compounds such as chromate copper arsenate, pentachlorophenol, and creosote. Plywood, particle board, oriented strand board, and other types of wood products bound by glues and resins are included in this definition.

*Waste heat boiler* means a device that recovers normally unused energy and converts it to usable heat. Waste heat boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat boiler are not considered waste heat boilers, but are considered boilers. Waste heat boilers are also referred to as heat recovery steam generators.

*Watertube boiler* means a boiler in which water passes through the tubes and hot gases of combustion pass over the outside surfaces of the tubes.

*Wet scrubber* means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater to control emissions of particulate matter and/or to absorb and neutralize acid gases, such as hydrogen chloride.

*Work practice standard* means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

**Tables to Subpart DDDDD of Part 63**

TABLE 1 TO SUBPART DDDDD OF PART 63.—EMISSION LIMITS AND WORK PRACTICE STANDARDS

As stated in § 63.7500, you must comply with the following applicable emission limits and work practice standards:

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | You must meet the following emission limits and work practice standards . . . |
|---|---|---|
| 1. New or reconstructed large solid fuel ..... | a. Particulate Matter (or Total Selected Metals). | 0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input). |
| | b. Hydrogen Chloride ..... | 0.02 lb per MMBtu of heat input. |
| | c. Mercury ..... | 0.000003 lb per MMBtu of heat input. |
| | d. Carbon Monoxide ..... | 400 ppm by volume on a dry basis corrected to 7 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr). |

TABLE 1 TO SUBPART DDDDD OF PART 63.—EMISSION LIMITS AND WORK PRACTICE STANDARDS—Continued

As stated in § 63.7500, you must comply with the following applicable emission limits and work practice standards:

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | You must meet the following emission limits and work practice standards . . . |
|---|---|---|
| 2. New or reconstructed limited use solid fuel ... | a. Particulate Matter (or Total Selected Metals). | 0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input). |
| | b. Hydrogen Chloride | 0.02 lb per MMBtu of heat input. |
| | c. Mercury | 0.000003 lb per MMBtu of heat input. |
| | d. Carbon Monoxide | 400 ppm by volume on a dry basis corrected to 7 percent oxygen (3-run average). |
| 3. New or reconstructed small solid fuel | a. Particulate Matter (or Total Selected Metals). | 0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input). |
| | b. Hydrogen Chloride | 0.02 lb per MMBtu of heat input. |
| | c. Mercury | 0.000003 lb per MMBtu of heat input. |
| 4. New reconstructed large liquid fuel | a. Particulate Matter | 0.03 lb per MMBtu of heat input. |
| | b. Hydrogen Chloride | 0.0005 lb per MMBtu of heat input. |
| | c. Carbon Monoxide | 400 ppm by volume on a dry basis corrected to 3 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr). |
| 5. New or reconstructed limited use liquid fuel .. | a. Particulate Matter | 0.03 lb per MMBtu of heat input. |
| | b. Hydrogen Chloride | 0.0009 lb per MMBtu of heat input. |
| | c. Carbon Monoxide | 400 ppm by volume on a dry basis liquid corrected to 3 percent oxygen (3-run average). |
| 6. New or reconstructed small liquid fuel | a. Particulate Matter | 0.03 lb per MMBtu of heat input. |
| | b. Hydrogen Chloride | 0.0009 lb per MMBtu of heat input. |
| 7. New reconstructed large gaseous fuel | Carbon Monoxide | 400 ppm by volume on a dry basis corrected to 3 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr). |
| 8. New or reconstructed limited use gaseous fuel. | Carbon Monoxide | 400 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average). |
| 9. Existing large solid fuel | a. Particulate Matter (or Total Selected Metals). | 0.07 lb per MMBtu of heat input; or (0.001 lb per MMBtu of heat input). |
| | b. Hydrogen Chloride | 0.09 lb per MMBtu of heat input. |
| | c. Mercury | 0.000009 lb per MMBtu of heat input. |
| 10. Existing limited use solid fuel | Particulate Matter (or Total Selected Metals) .. | 0.21 lb per MMBtu of heat input; or (0.004 lb per MMBtu of heat input). |

TABLE 2 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH PARTICULATE MATTER EMISSION LIMITS

As stated in § 63.7500, you must comply with the applicable operating limits:

| If you demonstrate compliance with applicable particulate matter emission limits using . . . | You must meet these operating limits . . . |
|---|---|
| 1. Wet scrubber control | a. Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for particulate matter. |
| 2. Fabric filter control | a. Install and operate a bag leak detection system according to § 63.7525 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; or |
| | b. This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average). |
| 3. Electrostatic precipitator control | a. This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average); or |

TABLE 2 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH PARTICULATE MATTER EMISSION LIMITS—Continued

As stated in § 63.7500, you must comply with the applicable operating limits:

| If you demonstrate compliance with applicable particulate matter emission limits using . . . | You must meet these operating limits . . . |
|---|---|
| | b. This option is only for boilers and process heaters that operate additional wet control systems. Maintain the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating limits established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for particulate matter. |
| 4. Any other control type | This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average). |

TABLE 3 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH MERCURY EMISSION LIMITS AND BOILERS AND PROCESS HEATERS THAT CHOOSE TO COMPLY WITH THE ALTERNATIVE TOTAL SELECTED METALS EMISSION LIMITS

As stated in § 63.7500, you must comply with the applicable operating limits:

| If you demonstrate compliance with applicable mercury and/or total selected metals emission limits using . . . | You must meet these operating limits . . . |
|---|---|
| 1. Wet scrubber control | Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limits for mercury and/or total selected metals. |
| 2. Fabric filter control | a. Install and operate a bag leak detection system according to § 63.7525 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 a 6-month period; or |
| | b. This option is for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average). |
| 3. Electrostatic precipitator control | a. This option is for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average); or |
| | b. This option is only for boilers and process heaters that operate additional wet control systems. Maintain the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating limits established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limits for mercury and/or total selected metals. |
| 4. Dry scrubber or carbon injection control | Maintain the minimum sorbent or carbon injection rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for mercury. |
| 5. Any other control type | This option is only for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average). |
| 6. Fuel analysis | Maintain the fuel type or fuel mixture such that the mercury and/or total selected metals emission rates calculated according to § 63.7530(d)(4) and/or (5) is less than the applicable emission limits for mercury and/or total selected metals. |

TABLE 4 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH HYDROGEN CHLORIDE EMISSION LIMITS

As stated in § 63.7500, you must comply with the following applicable operating limits:

| If you demonstrate compliance with applicable hydrogen chloride emission limits using . . . | You must meet these operating limits . . . |
|---|---|
| 1. Wet scrubber control | Maintain the minimum scrubber effluent pH, pressure drop, and liquid flow-rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for hydrogen chloride. |
| 2. Dry scrubber control | Maintain the minimum sorbent injection rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for hydrogen chloride. |
| 3. Fuel analysis | Maintain the fuel type or fuel mixture such that the hydrogen chloride emission rate calculated according to § 63.7530(d)(3) is less than the applicable emission limit for hydrogen chloride. |

TABLE 5 TO SUBPART DDDDD OF PART 63.—PERFORMANCE TESTING REQUIREMENTS

As stated in § 63.7520, you must comply with the following requirements for performance test for existing, new or reconstructed 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 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 to part 60 of this chapter. |
| | c. Determine oxygen and carbon dioxide concentrations of the stack gas. | Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)). |
| | d. Measure the moisture content of the stack gas. | Method 4 in appendix A 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 to part 60 of this chapter. |
| | f. Convert emissions concentration to lb per MMBtu emission rates. | Method 19 F-factor methodology in appendix A to part 60 of this chapter. |
| 2. Total selected metals | a. Select sampling ports location and the number of traverse points. | Method 1 in appendix A 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 to part 60 of this chapter. |
| | c. Determine oxygen and carbon dioxide concentrations of the stack gas. | Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)). |
| | d. Measure the moisture content of the stack gas. | Method 4 in appendix A to part 60 of this chapter. |
| | e. Measure the total selected metals emission concentration. | Method 29 in appendix A to part 60 of this chapter. |
| | f. Convert emissions concentration to lb per MMBtu emission rates. | Method 19 F-factor methodology in appendix A to part 60 of this chapter. |
| 3. Hydrogen chloride | a. Select sampling ports location and the number of traverse points. | Method 1 in appendix A 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 to part 60 of this chapter. |
| | c. Determine oxygen and carbon dioxide concentrations of the stack gas. | Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)). |
| | d. Measure the moisture content of the stack gas. | Method 4 in appendix A to part 60 of this chapter. |
| | e. Measure the hydrogen chloride emission concentration. | Method 26 or 26A in appendix A to part 60 of this chapter. |
| | f. Convert emissions concentration to lb per MMBtu emission rates. | Method 19 F-factor methodology in appendix A to part 60 of this chapter. |
| 4. Mercury | a. Select sampling ports location and the number of traverse points. | Method 1 in appendix A 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 to part 60 of this chapter. |
| | c. Determine oxygen and carbon dioxide concentrations of the stack gas. | Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 62.14(i)). |

TABLE 5 TO SUBPART DDDDD OF PART 63.—PERFORMANCE TESTING REQUIREMENTS—Continued

As stated in § 63.7520, you must comply with the following requirements for performance test for existing, new or reconstructed affected sources:

| To conduct a performance test for the following pollutant . . . | You must . . . | Using . . . |
|---|---|---|
| | d. Measure the moisture content of the stack gas. | Method 4 in appendix A to part 60 of this chapter. |
| | e. Measure the mercury emission concentration. | Method 29 in appendix A to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784–02 (IBR, see § 63.14(b)). |
| | f. Convert emissions concentration to lb per MMBtu emission rates. | Method 19 F-factor methodology in appendix A to part 60 of this chapter. |
| 5. Carbon Monoxide | a. Select the sampling ports location and the number of traverse points. | Method 1 in appendix A to part 60 of this chapter. |
| | b. Determine oxygen and carbon dioxide concentrations of the stack gas. | Method 3A or 3B in appendix A to part 60 of this chapter, or ASTM D6522–00 (IBR, see § 63.14(b)), or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)). |
| | c. Measure the moisture content of the stack gas. | Method 4 in appendix A to part 60 of this chapter. |
| | d. Measure the carbon monoxide emission concentration. | Method 10, 10A, or 10B in appendix A to part 60 of this chapter, or ASTM D6522–00 (IBR, see § 63.14(b)) when the fuel is natural gas. |

TABLE 6 TO SUBPART DDDDD OF PART 63.—FUEL ANALYSIS REQUIREMENTS

As stated in § 63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources:

| To conduct a fuel analysis for the following pollutant . . . | You must . . . | Using . . . |
|---|---|---|
| 1. Mercury | a. Collect fuel samples | Procedure in § 63.7521(c) or ASTM D2234–00 ∈1 (for coal)(IBR, see § 63.14(b)) or ASTM D6323–98 (2003)(for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | b. Composite fuel samples | Procedure in § 63.7521(d) or equivalent. |
| | c. Prepare composited fuel samples | SW–846–3050B (for solid samples) or SW–846–3020A (for liquid samples) or ASTM D2013–01 (for coal) (IBR, see § 63.14(b)) or ASTM D5198–92 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | d. Determine heat content of the fuel type | ASTM D5865–03a (for coal)(IBR, see § 63.14(b)) or ASTM E711–87 (1996) (for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | e. Determine moisture content of the fuel type | ASTM D3173–02 (IBR, see § 63.14(b)) or ASTM E871–82 (1998)(IBR, see § 63.14(b)) or equivalent. |
| | f. Measure mercury concentration in fuel sample. | ASTM D3684–01 (for coal)(IBR, see § 63.14(b)) or SW–846–7471A (for solid samples) or SW–846 7470A (for liquid samples). |
| | g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content. | |
| 2. Total selected metals | a. Collect fuel samples | Procedure in § 63.7521(c) or ASTM D2234–00 ∈1 (for coal)(IBR, see § 63.14(b)) or ASTM D6323–98 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | b. Composite fuel samples | Procedure in § 63.7521(d) or equivalent. |
| | c. Prepare composited fuel samples | SW–846–3050B (for solid samples) or SW–846–3020A (for liquid samples) or ASTM D2013–01 (for coal)(IBR, see § 63.14(b)) or ASTM D5198–92 (2003)(for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | d. Determine heat content of the fuel type | ASTM D5865–03a (for coal)(IBR, see § 63.14(b)) or ASTM E 711–87 (for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | e. Determine moisture content of the fuel type | ASTM D3173–02 (IBR, see § 63.14(b)) or ASTM E871 (IBR, see § 63.14(b)) or equivalent. |

TABLE 6 TO SUBPART DDDDD OF PART 63.—FUEL ANALYSIS REQUIREMENTS—Continued

As stated in § 63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources:

| To conduct a fuel analysis for the following pollutant . . . | You must . . . | Using . . . |
|---|---|---|
| | f. Measure total selected metals concentration in fuel sample. | SW–846–6010B or ASTM D3683–94 (2000) (for coal) (IBR, see § 63.14(b)) or ASTM E885–88 (1996) (for biomass)(IBR, see § 63.14(b)). |
| | g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content. | |
| 3. Hydrogen chloride | a. Collect fuel samples | Procedure in § 63.7521(c) or ASTM D2234∈1 (for coal)(IBR, see § 63.14(b)) or ASTM D6323–98 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | b. Composite fuel samples | Procedure in § 63.7521(d) or equivalent. |
| | c. Prepare composited fuel samples | SW–846–3050B (for solid samples) or SW–846–3020A (for liquid samples) or ASTM D2013–01 (for coal)(IBR, see § 63.14(b)) or ASTM D5198–92 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | d. Determine heat content of the fuel type | ASTM D5865–03a (for coal)(IBR, see § 63.14(b)) or ASTM E711–87 (1996) (for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | e. Determine moisture content of the fuel type | ASTM D3173–02 (IBR, see § 63.14(b)) or ASTM E871–82 (1998)(IBR, see § 63.14(b)) or equivalent. |
| | f. Measure chlorine concentration in fuel sample. | SW–846–9250 or ASTM E776–87 (1996) (for biomass)(IBR, see § 63.14(b)) or equivalent. |
| | g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content. | |

TABLE 7 TO SUBPART DDDDD OF PART 63.—ESTABLISHING OPERATING LIMITS

As stated in § 63.7520, 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. Particulate matter, mercury, or total selected metals. | a. Wet scrubber operating parameters. | i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to § 63.7530(c). | (1) Data from the pressure drop and liquid flow rate monitors and the particulate matter, mercury, or total selected metals performance test. | (a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the performance tests;<br>(b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run. |
| | b. Electrostatic precipitator operating parameters (option only for units with additional wet scrubber control). | i. Establish a site-specific minimum voltage and secondary current or total power input according to § 63.7530(c). | (1) Data from the pressure drop and liquid flow rate monitors and the particulate matter, mercury, or total selected metals performance test. | (a) You must collect voltage and secondary current or total power input data every 15 minutes during the entire period of the performance tests;<br>(b) Determine the average voltage and secondary current or total power input for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run. |

TABLE 7 TO SUBPART DDDDD OF PART 63.—ESTABLISHING OPERATING LIMITS—Continued

As stated in § 63.7520, 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 |
|---|---|---|---|---|
| 2. Hydrogen Chloride ... | a. Wet scrubber operating parameters. | i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to § 63.7530(c). | (1) Data from the pH, pressure drop, and liquid flow-rate monitors and the hydrogen chloride performance test. | (a) You must collect pH, pressure drop, and liquid flow-rate data every 15 minutes during the entire period of the performance tests;<br>(b) Determine the average pH, pressure drop, and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run. |
| | b. Dry scrubber operating parameters. | i. Establish a site-specific minimum sorbent injection rate operating limit according to § 63.7530(c). | (1) Data from the sorbent injection rate monitors and hydrogen chloride performance test. | (a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests;<br>(b) Determine the average sorbent injection rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run. |

TABLE 8 TO SUBPART DDDDD OF PART 63.—DEMONSTRATING CONTINUOUS COMPLIANCE

As stated in § 63.7540, you must show continuous compliance with the emission limitations for affected sources according to the following:

| If you must meet the following operating limits or work practice standards . . . | You must demonstrate continuous compliance by . . . |
|---|---|
| 1. Opacity | a. Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and<br>b. Reducing the opacity monitoring data to 6-minute averages; and<br>c. Maintaining opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent for existing sources; or maintaining opacity to less than or equal to 10 percent (1-hour block average) for new sources. |
| 2. Fabric Filter Bag Leak Detection Operation | Installing and operating a bag leak detection system according to § 63.7525 and operating the fabric filter such that the requirements in § 63.7540(a)(9) 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 §§ 63.7525 and 63.7535; and<br>b. Reducing the data to 3-hour block averages; and<br>c. Maintaining the 3-hour average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to § 63.7530(c). |
| 4. Wet Scrubber pH | a. Collecting the pH monitoring system data according to §§ 63.7525 and 63.7535; and<br>b. Reducing the data to 3-hour block averages; and<br>c. Maintaining the 3-hour average pH at or above the operating limit established during the performance test according to § 63.7530(c). |
| 5. Dry Scrubber Sorbent or Carbon Injection Rate | a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§ 63.7525 and 63.7535; and<br>b. Reducing the data to 3-hour block averages; and<br>c. Maintaining the 3-hour average sorbent or carbon injection rate at or above the operating limit established during the performance test according to §§ 63.7530(c). |
| 6. Electrostatic Precipitator Secondary Current and Voltage or Total Power Input. | a. Collecting the secondary current and voltage or total power input monitoring system data for the electrostatic precipitator according to §§ 63.7525 and 63.7535; and<br>b. Reducing the data to 3-hour block averages; and |

TABLE 8 TO SUBPART DDDDD OF PART 63.—DEMONSTRATING CONTINUOUS COMPLIANCE—Continued

As stated in § 63.7540, you must show continuous compliance with the emission limitations for affected sources according to the following:

| If you must meet the following operating limits or work practice standards . . . | You must demonstrate continuous compliance by . . . |
|---|---|
| 7. Fuel Pollutant Content | c. Maintaining the 3-hour average secondary current and voltage or total power input at or above the operating limits established during the performance test according to §§ 63.7530(c).<br>a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to § 63.7530(c) or (d) as applicable; and<br>b. Keeping monthly records of fuel use according to § 63.7540(a). |

TABLE 9 TO SUBPART DDDDD OF PART 63.—REPORTING REQUIREMENTS

As stated in § 63.7550, you must comply with the following requirements for reports:

| You must submit a(n) | The report must contain . . . | You must submit the report . . . |
|---|---|---|
| 1. Compliance report | a. Information required in § 63.7550(c)(1) through (11); and<br>b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 8 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and<br>c. If you have a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in § 63.7550(d). If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control, as specified in § 63.8(c)(7), the report must contain the information in § 63.7550(e); and<br>d. If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in § 63.10(d)(5)(i) | Semiannually according to the requirements in § 63.7550(b). |
| 2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard. | a. Actions taken for the event; and | i. By fax or telephone within 2 working days after starting actions inconsistent with the plan; and |
| | b. The information in § 63.10(d)(5)(ii) | ii. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority. |

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

| Citation | Subject | Brief description | Applicable |
|---|---|---|---|
| § 63.1 | Applicability | Initial Applicability Determination; Applicability After Standard Established; Permit Requirements; Extensions, Notifications. | Yes. |
| § 63.2 | Definitions | Definitions for part 63 standards | Yes. |
| § 63.3 | Units and Abbreviations | Units and abbreviations for part 63 standards. | Yes. |
| § 63.4 | Prohibited Activities | Prohibited Activities; Compliance date; Circumvention, Severability. | Yes. |
| § 63.5 | Construction/Reconstruction | Applicability; applications; approvals | Yes. |
| § 63.6(a) | Applicability | GP apply unless compliance extension; and GP apply to area sources that become major. | Yes. |
| § 63.6(b)(1)–(4) | Compliance Dates for New and Reconstructed sources. | Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for 112(f). | Yes. |
| § 63.6(b)(5) | Notification | Must notify if commenced construction or reconstruction after proposal. | Yes. |
| § 63.6(b)(6) | [Reserved]. | | |
| § 63.6(b)(7) | Compliance Dates for New and Reconstructed Area Sources That Become Major. | Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source. | Yes. |
| § 63.6(c)(1)–(2) | Compliance Dates for Existing Sources | Comply according to date in subpart, which must be no later than 3 years after effective date; and for 112(f) standards, comply within 90 days of effective date unless compliance extension. | Yes. |
| § 63.6(c)(3)–(4) | [Reserved]. | | |
| § 63.6(c)(5) | Compliance Dates for Existing Area Sources That Become Major. | Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years). | Yes. |
| § 63.6(d) | [Reserved]. | | |
| § 63.6(e)(1)–(2) | Operation & Maintenance | Operate to minimize emissions at all times; and Correct malfunctions as soon as practicable; and Operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met. | Yes. |
| § 63.6(e)(3) | Startup, Shutdown, and Malfunction Plan (SSMP). | Requirement for SSM and startup, shutdown, malfunction plan; and content of SSMP. | Yes. |
| § 63.6(f)(1) | Compliance Except During SSM | Comply with emission standards at all times except during SSM. | Yes. |
| § 63.6(f)(2)–(3) | Methods for Determining Compliance | Compliance based on performance test, operation and maintenance plans, records, inspection. | Yes. |
| § 63.6(g)(1)–(3) | Alternative Standard | Procedures for getting an alternative standard. | Yes. |
| § 63.6(h)(1) | Compliance with Opacity/VE Standards | Comply with opacity/VE emission limitations at all times except during SSM. | Yes. |
| § 63.6(h)(2)(i) | Determining Compliance with Opacity/Visible Emission (VE) Standards. | If standard does not state test method, use Method 9 for opacity and Method 22 for VE. | No. |
| § 63.6(h)(2)(ii) | [Reserved]. | | |
| § 63.6(h)(2)(iii) | Using Previous Tests to Demonstrate Compliance with Opacity/VE Standards | Criteria for when previous opacity/VE testing can be used to show compliance with this subpart. | Yes. |
| § 63.6(h)(3) | [Reserved]. | | |
| § 63.6(h)(4) | Notification of Opacity/VE Observation Date. | Notify Administrator of anticipated date of observation. | No. |
| § 63.6(h)(5)(i),(iii)–(v) | Conducting Opacity/VE Observations | Dates and Schedule for conducting opacity/VE observations. | No. |

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

| Citation | Subject | Brief description | Applicable |
|---|---|---|---|
| § 63.6(h)(5)(ii) | Opacity Test Duration and Averaging Times. | Must have at least 3 hours of observation with thirty, 6-minute averages. | No. |
| § 63.6(h)(6) | Records of Conditions During Opacity/VE observations. | Keep records available and allow Administrator to inspect. | No. |
| § 63.6(h)(7)(i) | Report continuous opacity monitoring system Monitoring Data from Performance Test. | Submit continuous opacity monitoring system data with other performance test data. | Yes. |
| § 63.6(h)(7)(ii) | Using continuous opacity monitoring system instead of Method 9. | Can submit continuous opacity monitoring system data instead of Method 9 results even if subpart requires Method 9, but must notify Administrator before performance test. | No. |
| § 63.6(h)(7)(iii) | Averaging time for continuous opacity monitoring system during performance test. | To determine compliance, must reduce continuous opacity monitoring system data to 6-minute averages. | Yes. |
| § 63.6(h)(7)(iv) | Continuous opacity monitoring system requirements. | Demonstrate that continuous opacity monitoring system performance evaluations are conducted according to §§ 63.8(e), continuous opacity monitoring systems are properly maintained and operated according to § 63.8(c) and data quality as § 63.8(d). | Yes. |
| § 63.6(h)(7)(v) | Determining Compliance with Opacity/VE Standards. | Continuous opacity monitoring system is probative but not conclusive evidence of compliance with opacity standard, even if Method 9 observation shows otherwise. Requirements for continuous opacity monitoring system to be probative evidence-proper maintenance, meeting PS 1, and data have not been altered. | Yes. |
| § 63.6(h)(8) | Determining Compliance with Opacity/VE Standards. | Administrator will use all continuous opacity monitoring system, Method 9, and Method 22 results, as well as information about operation and maintenance to determine compliance. | Yes. |
| § 63.6(h)(9) | Adjusted Opacity Standard | Procedures for Administrator to adjust an opacity standard. | Yes. |
| § 63.6(i)(1)–(14) | Compliance Extension | Procedures and criteria for Administrator to grant compliance extension. | Yes. |
| § 63.6(j) | Presidential Compliance Exemption | President may exempt source category from requirement to comply with rule. | Yes. |
| § 63.7(a)(1) | Performance Test Dates | Dates for Conducting Initial Performance Testing and Other Compliance Demonstrations. | Yes. |
| § 63.7(a)(2) | Performance Test Dates | New source with initial startup date before effective date has 180 days after effective date to demonstrate compliance | Yes. |
| § 63.7(a)(2)(ii–viii) | [Reserved]. | | |
| § 63.7(a)(2)(ix) | Performance Test Dates | 1. New source that commenced construction between proposal and promulgation dates, when promulgated standard is more stringent than proposed standard, has 180 days after effective date or 180 days after startup of source, whichever is later, to demonstrate compliance; and. | Yes. |
| | | 2. If source initially demonstrates compliance with less stringent proposed standard, it has 3 years and 180 days after the effective date of the standard or 180 days after startup of source, whichever is later, to demonstrate compliance with promulgated standard. | No. |
| § 63.7(a)(3) | Section 114 Authority | Administrator may require a performance test under CAA Section 114 at any time. | Yes. |

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

| Citation | Subject | Brief description | Applicable |
|---|---|---|---|
| § 63.7(b)(1) | Notification of Performance Test | Must notify Administrator 60 days before the test. | No. |
| § 63.7(b)(2) | Notification of Rescheduling | If rescheduling a performance test is necessary, must notify Administrator 5 days before scheduled date of rescheduled date. | Yes. |
| § 63.7(c) | Quality Assurance/Test Plan | Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with: test plan approval procedures; and performance audit requirements; and internal and external QA procedures for testing. | Yes. |
| § 63.7(d) | Testing Facilities | Requirements for testing facilities | Yes. |
| § 63.7(e)(1) | Conditions for Conducting Performance Tests. | 1. Performance tests must be conducted under representative conditions; and | No. |
| | | 2. Cannot conduct performance tests during SSM; and | Yes. |
| | | 3. Not a deviation to exceed standard during SSM; and | Yes. |
| | | 4. Upon request of Administrator, make available records necessary to determine conditions of performance tests. | Yes. |
| § 63.7(e)(2) | Conditions for Conducting Performance Tests. | Must conduct according to rule and EPA test methods unless Administrator approves alternative. | Yes. |
| § 63.7(e)(3) | Test Run Duration | Must have three separate test runs; and Compliance is based on arithmetic mean of three runs; and conditions when data from an additional test run can be used. | Yes. |
| § 63.7(e)(4) | Interaction with other sections of the Act | Nothing in § 63.7(e)(1) through (4) can abrogate the Administrator's authority to require testing under Section 114 of the Act. | Yes. |
| § 63.7(f) | Alternative Test Method | Procedures by which Administrator can grant approval to use an alternative test method. | Yes. |
| § 63.7(g) | Performance Test Data Analysis | Must include raw data in performance test report; and must submit performance test data 60 days after end of test with the Notification of Compliance Status; and keep data for 5 years. | Yes. |
| § 63.7(h) | Waiver of Tests | Procedures for Administrator to waive performance test. | Yes. |
| § 63.8(a)(1) | Applicability of Monitoring Requirements | Subject to all monitoring requirements in standard. | Yes. |
| § 63.8(a)(2) | Performance Specifications | Performance Specifications in appendix B of part 60 apply. | Yes. |
| § 63.8(a)(3) | [Reserved]. | | |
| § 63.8(a)(4) | Monitoring with Flares | Unless your rule says otherwise, the requirements for flares in § 63.11 apply. | No. |
| §63.8(b)(1)(i)–(ii) | Monitoring | Must conduct monitoring according to standard unless Administrator approves alternative. | Yes. |
| § 63.8(b)(1)(iii) | Monitoring | Flares not subject to this section unless otherwise specified in relevant standard. | No. |
| § 63.8(b)(2)–(3) | Multiple Effluents and Multiple Monitoring Systems. | Specific requirements for installing monitoring systems; and must install on each effluent before it is combined and before it is released to the atmosphere unless Administrator approves otherwise; and if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup. | Yes. |
| § 63.8(c)(1) | Monitoring System Operation and Maintenance. | Maintain monitoring system in a manner consistent with good air pollution control practices. | Yes. |

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

| Citation | Subject | Brief description | Applicable |
|---|---|---|---|
| § 63.8(c)(1)(i) | Routine and Predictable SSM | Maintain and operate CMS according to § 63.6(e)(1). | Yes. |
| § 63.8(c)(1)(ii) | SSM not in SSMP | Must keep necessary parts available for routine repairs of CMSs. | Yes. |
| § 63.8(c)(1)(iii) | Compliance with Operation and Maintenance Requirements. | Must develop and implement an SSMP for CMSs. | Yes. |
| § 63.8(c)(2)–(3) | Monitoring System Installation | Must install to get representative emission and parameter measurements; and must verify operational status before or at performance test. | Yes. |
| § 63.8(c)(4) | Continuous Monitoring System (CMS) Requirements. | CMSs must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts. | No. |
| § 63.8(c)(4)(i) | Continuous Monitoring System (CMS) Requirements. | Continuous opacity monitoring system must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period. | Yes. |
| § 63.8(c)(4)(ii) | Continuous Monitoring System (CMS) Requirements. | Continuous emissions monitoring system must have a minimum of one cycle of operation for each successive 15-minute period. | No. |
| § 63.8(c)(5) | Continuous Opacity Monitoring system (COMS) Requirements. | Must do daily zero and high level calibrations. | Yes. |
| § 63.8(c)(6) | Continuous Monitoring System (CMS) Requirements. | Must do daily zero and high level calibrations. | No. |
| § 63.8(c)(7)–(8) | Continuous Monitoring Systems Requirements. | Out-of-control periods, including reporting | Yes. |
| § 63.8(d) | Continuous Monitoring Systems Quality Control. | Requirements for continuous monitoring systems quality control, including calibration, etc.; and must keep quality control plan on record for the life of the affected source. Keep old versions for 5 years after revisions. | Yes. |
| § 63.8(e) | Continuous monitoring systems Performance Evaluation. | Notification, performance evaluation test plan, reports. | Yes. |
| § 63.8(f)(1)–(5) | Alternative Monitoring Method | Procedures for Administrator to approve alternative monitoring. | Yes. |
| § 63.8(f)(6) | Alternative to Relative Accuracy Test | Procedures for Administrator to approve alternative relative accuracy tests for continuous emissions monitoring system. | No. |
| § 63.8(g)(1)–(4) | Data Reduction | Continuous opacity monitoring system 6-minute averages calculated over at least 36 evenly spaced data points; and continuous emissions monitoring system 1-hour averages computed over at least 4 equally spaced data points. | Yes. |
| § 63.8(g)(5) | Data Reduction | Data that cannot be used in computing averages for continuous emissions monitoring system and continuous opacity monitoring system. | No. |
| § 63.9(a) | Notification Requirements | Applicability and State Delegation | Yes. |
| § 63.9(b)(1)–(5) | Initial Notifications | Submit notification 120 days after effective date; and Notification of intent to construct/reconstruct; and Notification of commencement of construct/reconstruct; Notification of startup; and Contents of each. | Yes. |
| § 63.9(c) | Request for Compliance Extension | Can request if cannot comply by date or if installed BACT/LAER. | Yes. |
| § 63.9(d) | Notification of Special Compliance Requirements for New Source. | For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date. | Yes. |
| § 63.9(e) | Notification of Performance Test | Notify Administrator 60 days prior | No. |

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

| Citation | Subject | Brief description | Applicable |
|---|---|---|---|
| § 63.9(f) | Notification of VE/Opacity Test | Notify Administrator 30 days prior | No. |
| § 63.9(g) | Additional Notifications When Using Continuous Monitoring Systems. | Notification of performance evaluation; and notification using continuous opacity monitoring system data; and notification that exceeded criterion for relative accuracy. | Yes. |
| § 63.9(h)(1)–(6) | Notification of Compliance Status | Contents; and due 60 days after end of performance test or other compliance demonstration, and when to submit to Federal vs. State authority. | Yes. |
| § 63.9(i) | Adjustment of Submittal Deadlines | Procedures for Administrator to approve change in when notifications must be submitted. | Yes. |
| § 63.9(j) | Change in Previous Information | Must submit within 15 days after the change. | Yes. |
| § 63.10(a) | Recordkeeping/Reporting | Applies to all, unless compliance extension; and when to submit to Federal vs. State authority; and procedures for owners of more than 1 source. | Yes. |
| § 63.10(b)(1) | Recordkeeping/Reporting | General Requirements; and keep all records readily available and keep for 5 years. | Yes. |
| § 63.10(b)(2)(i)–(v) | Records related to Startup, Shutdown, and Malfunction. | Occurrence of each of operation (process, equipment); and occurrence of each malfunction of air pollution equipment; and maintenance of air pollution control equipment; and actions during startup, shutdown, and malfunction. | Yes. |
| § 63.10(b)(2)(vi) and (x–xi) | Continuous monitoring systems Records | Malfunctions, inoperative, out-of-control; and calibration checks; and adjustments, maintenance. | Yes. |
| § 63.10(b)(2)(vii)–(ix) | Records | Measurements to demonstrate compliance with emission limitations; and performance test, performance evaluation, and visible emission observation results; and measurements to determine conditions of performance tests and performance evaluations. | Yes. |
| § 63.10(b)(2)(xii) | Records | Records when under waiver | Yes. |
| § 63.10(b)(2)(xiii) | Records | Records when using alternative to relative accuracy test. | No. |
| § 63.10(b)(2)(xiv) | Records | All documentation supporting Initial Notification and Notification of Compliance Status. | Yes. |
| § 63.10(b)(3) | Records | Applicability Determinations | Yes. |
| § 63.10(c)(1),(5)–(8),(10)–(15) | Records | Additional Records for continuous monitoring systems. | Yes. |
| § 63.10(c)(7)–(8) | Records | Records of excess emissions and parameter monitoring exceedances for continuous monitoring systems. | No. |
| § 63.10(d)(1) | General Reporting Requirements | Requirement to report | Yes. |
| § 63.10(d)(2) | Report of Performance Test Results | When to submit to Federal or State authority. | Yes. |
| § 63.10(d)(3) | Reporting Opacity or VE Observations | What to report and when | Yes. |
| § 63.10(d)(4) | Progress Reports | Must submit progress reports on schedule if under compliance extension. | Yes. |
| § 63.10(d)(5) | Startup, Shutdown, and Malfunction Reports. | Contents and submission | Yes. |
| § 63.10(e)(1)(2) | Additional continuous monitoring systems Reports. | Must report results for each CEM on a unit; and written copy of performance evaluation; and 3 copies of continuous opacity monitoring system performance evaluation. | Yes. |
| § 63.10(e)(3) | Reports | Excess Emission Reports | No. |
| § 63.10(e)(3)(i–iii) | Reports | Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations). | No. |

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

| Citation | Subject | Brief description | Applicable |
|---|---|---|---|
| § 63.10(e)(3)(iv–v) | Excess Emissions Reports | Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedance (now defined as deviations); and provision to request semiannual reporting after compliance for one year; and submit report by 30th day following end of quarter or calendar half; and if there has not been an exceedance or excess emission (now defined as deviations), report contents is a statement that there have been no deviations. | No. |
| § 63.10(e)(3)(iv–v) | Excess Emissions Reports | Must submit report containing all of the information in § 63.10(c)(5–13), § 63.8(c)(7–8). | No. |
| § 63.10(e)(3)(vi–viii) | Excess Emissions Report and Summary Report. | Requirements for reporting excess emissions for continuous monitoring systems (now called deviations); Requires all of the information in § 63.10(c)(5–13), § 63.8(c)(7–8). | No. |
| § 63.10(e)(4) | Reporting continuous opacity monitoring system data. | Must submit continuous opacity monitoring system data with performance test data. | Yes. |
| § 63.10(f) | Waiver for Recordkeeping/Reporting | Procedures for Administrator to waive | Yes. |
| § 63.11 | Flares | Requirements for flares | No. |
| § 63.12 | Delegation | State authority to enforce standards | Yes. |
| § 63.13 | Addresses | Addresses where reports, notifications, and requests are sent. | Yes. |
| § 63.14 | Incorporation by Reference | Test methods incorporated by reference | Yes. |
| § 63.15 | Availability of Information | Public and confidential Information | Yes. |

## Appendix A to Subpart DDDDD—Methodology and Criteria for Demonstrating Eligibility for the Health-Based Compliance Alternatives Specified for the Large Solid Fuel Subcategory

### 1. Purpose/Introduction

This appendix provides the methodology and criteria for demonstrating that your affected source is eligible for the compliance alternative for the HCl emission limit and/or the total selected metals (TSM) emission limit. This appendix specifies emissions testing methods that you must use to determine HCl, chlorine, and manganese emissions from the affected units and what parts of the affected source facility must be included in the eligibility demonstration. You must demonstrate that your affected source is eligible for the health-based compliance alternatives using either a look-up table analysis (based on the look-up tables included in this appendix) or a site-specific compliance demonstration performed according to the criteria specified in this appendix. This appendix also specifies how and when you file any eligibility demonstrations for your affected source and how to show that your affected source remains eligible for the health-based compliance alternatives in the future.

### 2. Who Is Eligible To Demonstrate That They Qualify for the Health-Based Compliance Alternatives?

Each new, reconstructed, or existing affected source may demonstrate that they are eligible for the health-based compliance alternatives. Section 63.7490 of subpart DDDDD defines the affected source and explains which affected sources are new, existing, or reconstructed.

### 3. What Parts of My Facility Have To Be Included in the Health-Based Eligibility Demonstration?

If you are attempting to determine your eligibility for the compliance alternative for HCl, you must include every emission point subject to subpart DDDDD that emits either HCl or $Cl_2$ in the eligibility demonstration.

If you are attempting to determine your eligibility for the compliance alternative for TSM, you must include every emission point subject to subpart DDDDD that emits manganese in the eligibility demonstration.

### 4. How Do I Determine HAP Emissions From My Affected Source?

(a) You must conduct HAP emissions tests or fuel analysis for every emission point covered under subpart DDDDD within the affected source facility according to the requirements in paragraphs (b) through (f) of this section and the methods specified in Table 1 of this appendix.

(1) If you are attempting to determine your eligibility for the compliance alternative for HCl, you must test the subpart DDDDD units at your facility for both HCl and $Cl_2$. When conducting fuel analysis, you must assume any chlorine detected will be emitted as $Cl_2$.

(2) If you are attempting to determine your eligibility for the compliance alternative for TSM, you must test the subpart DDDDD units at your facility for manganese.

(b) *Periods when emissions tests must be conducted.*

(1) You must not conduct emissions tests during periods of startup, shutdown, or malfunction, as specified in § 63.7(e)(1).

(2) You must test under worst-case operating conditions as defined in this appendix. You must describe your worst-case operating conditions in your performance test report for the process and control systems (if applicable) and explain why the conditions are worst-case.

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

(d) *Sampling locations.* Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

(e) *Collection of monitoring data for HAP control devices.* During the emissions test, you must collect operating parameter monitoring system data at least every 15 minutes during the entire emissions test and establish the site-specific operating requirements in Tables 3 or 4, as appropriate, of subpart DDDDD using data from the monitoring system and the procedures specified in § 63.7530 of subpart DDDDD.

(f) *Nondetect data.* You may treat emissions of an individual HAP as zero if all of the test runs result in a nondetect measurement and the condition in paragraph (f)(1) of this section is met for the manganese test method. Otherwise, nondetect data for individual HAP must be treated as one-half of the method detection limit.

(1) For manganese measured using Method 29 in appendix A to 40 CFR part 60, you analyze samples using atomic absorption spectroscopy (AAS).

(g) You must determine the maximum hourly emission rate for each appropriate emission point according to Equation 1 of this appendix.

$$\text{Max Hourly Emissions} = \sum_{i=1}^{n} (\text{Er} \times \text{Hm}) \qquad \text{(Eq. 1)}$$

Where:

Max Hourly Emissions = Maximum hourly emissions for hydrogen chloride, chlorine, or manganese, in units of pounds per hour.

Er = Emission rate (the 3-run average as determined according to Table 1 of this appendix or the pollutant concentration in the fuel samples analyzed according to § 63.7521) for hydrogen chloride, chlorine, or manganese, in units of pounds per million Btu of heat input.

Hm = Maximum rated heat input capacity of appropriate emission point, in units of million Btu per hour.

**5. What Are the Criteria for Determining If My Facility Is Eligible for the Health-Based Compliance Alternatives?**

(a) Determine the HAP emissions from each appropriate emission point within the affected source facility using the procedures specified in section 4 of this appendix.

(b) Demonstrate that your facility is eligible for either of the health-based compliance alternatives using either the methods described in section 6 of this appendix (look-up table analysis) or section 7 of this appendix (site-specific compliance demonstration).

(c) Your facility is eligible for the health-based compliance alternative for HCl if one of the following two statements is true:

(1) The calculated HCl-equivalent emission rate is below the appropriate value in the look-up table;

(2) Your site-specific compliance demonstration indicates that your maximum HI for HCl and $C1_2$ at a location where people live is less than or equal to 1.0;

(d) Your facility is eligible for the health-based compliance alternative for TSM if one of the following two statements is true:

(1) The manganese emission rate for all your subpart DDDDD sources is below the appropriate value in the look-up table;

(2) Your site-specific compliance demonstration indicates that your maximum HQ for manganese at a location where people live is less than or equal to 1.0.

**6. How Do I Conduct a Look-Up Table Analysis?**

You may use look-up tables to demonstrate that your facility is eligible for either the compliance alternative for the HCl emission limit or the compliance alternative for TSM emission limit.

(a) *HCl health-based compliance alternative.* (1) To calculate the total toxicity-weighted HCl-equivalent emission rate for your facility, first calculate the total affected source emission rate of HCl by summing the maximum hourly HCl emission rates from all your subpart DDDDD sources. Then, similarly, calculate the total affected source emission rate for $Cl_2$. Finally, calculate the toxicity-weighted emission rate (expressed in HCl equivalents) according to Equation 2 of this appendix.

$$\text{ER}_{tw} = \sum \left( \text{ER}_i \times \left( \text{RfC}_{HCl} / \text{RfC}_i \right) \right) \qquad \text{(Eq. 2)}$$

Where:

$ER_{tw}$ is the HCl-equivalent emission rate, lb/hr.

$ER_i$ is the emission rate of HAP i in lbs/hr

$RfC_i$ is the reference concentration of HAP i

$RfC_{HCl}$ is the reference concentration of HCl (RfCs for HCl and $Cl_2$ can be found at *http://www.epa.gov/ttn/atw/toxsource/summary.html).*

(2) The calculated HCl-equivalent emission rate will then be compared to the appropriate allowable emission rate in Table 2 of this appendix. To determine the correct value from the table, an average value for the appropriate subpart DDDDD emission points should be used for stack height and the minimum distance between any appropriate subpart DDDDD stack at the facility and the property boundary should be used for property boundary distance. Appropriate emission points and stacks are those that emit HCl and/or $Cl_2$. If one or both of these values does not match the exact values in the lookup tables, then use the next lowest table value. (**Note:** If your average stack height is less than 5 meters, you must use the 5 meter row.) Your facility is eligible to comply with the health-based alternative HCl emission limit if your toxicity-weighted HCl equivalent emission rate, determined using the methods specified in this appendix, does not exceed the appropriate value in Table 2 of this appendix.

(b) *TSM Compliance Alternative.* To calculate the total manganese emission rate for your affected source, sum the maximum hourly manganese emission rates for all your subpart DDDDD sources. The calculated manganese emission rate will then be compared to the allowable emission rate in the Table 3 of this appendix. To determine the correct value from the table, an average value for the appropriate subpart DDDDD emission points should be used for stack height and the minimum distance between any appropriate subpart DDDDD stack at the facility and the property boundary should be used for property boundary distance. Appropriate emission points and stacks are those that emit manganese. If one or both of these values does not match the exact values in the lookup tables, then use the next lowest table value. (**Note:** If your average stack height is less than 5 meters, you must use the 5 meter row.) Your facility may exclude manganese when demonstrating compliance with the TSM emission limit if your manganese emission rate, determined using the methods specified in this appendix, does not exceed the appropriate value specified in Table 3 of this appendix.

**7. How Do I Conduct a Site-Specific Compliance Demonstration?**

If you fail to demonstrate that your facility is able to comply with one or both of the alternative health-based emission standards using the look-up table approach, you may choose to perform a site-specific compliance demonstration for your facility. You may use any scientifically-accepted peer-reviewed risk assessment methodology for your site-specific compliance demonstration. An example of one approach for performing a site-specific compliance demonstration for air toxics can be found in the EPA's ''Air Toxics Risk Assessment Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document'', which may be obtained through the EPA's Air Toxics Web site at *http://www.epa.gov/ttn/fera/risk_atoxic.html.*

(a) Your facility is eligible for the HCl alternative compliance option if your site-specific compliance demonstration shows that the maximum HI for HCl and $Cl_2$ from your subpart DDDDD sources is less than or equal to 1.0.

(b) Your facility is eligible for the TSM alternative compliance option if your site-specific compliance demonstration shows that the maximum HQ for manganese from your subpart DDDDD sources is less than or equal to 1.0.

(c) At a minimum, your site-specific compliance demonstration must:

(1) Estimate long-term inhalation exposures through the estimation of annual

or multi-year average ambient concentrations;

(2) Estimate the inhalation exposure for the individual most exposed to the facility's emissions;

(3) Use site-specific, quality-assured data wherever possible;

(4) Use health-protective default assumptions wherever site-specific data are not available, and;

(5) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emissions measurement expert.

(d) Your site-specific compliance demonstration need not:

(1) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas;

(2) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

**8. What Must My Health-Based Eligibility Demonstration Contain?**

(a) Your health-based eligibility demonstration must contain, at a minimum, the information specified in paragraphs (a)(1) through (6) of this section.

(1) Identification of each appropriate emission point at the affected source facility, including the maximum rated capacity of each appropriate emission point.

(2) Stack parameters for each appropriate emission point including, but not limited to, the parameters listed in paragraphs (a)(2)(i) through (iv) below:

(i) Emission release type.

(ii) Stack height, stack area, stack gas temperature, and stack gas exit velocity.

(iii) Plot plan showing all emission points, nearby residences, and fenceline.

(iv) Identification of any control devices used to reduce emissions from each appropriate emission point.

(3) Emission test reports for each pollutant and appropriate emission point which has been tested using the test methods specified in Table 1 of this appendix, including a description of the process parameters identified as being worst case. Fuel analyses for each fuel and emission point which has been conducted including collection and analytical methods used.

(4) Identification of the RfC values used in your look-up table analysis or site-specific compliance demonstration.

(5) Calculations used to determine the HCl-equivalent or manganese emission rates according to sections 6(a) or (b) of this appendix.

(6) Identification of the controlling process factors (including, but not limited to, fuel type, heat input rate, type of control devices, process parameters reflecting the emissions rates used for your eligibility demonstration) that will become Federally enforceable permit conditions used to show that your facility remains eligible for the health-based compliance alternatives.

(b) If you use the look-up table analysis in section 6 of this appendix to demonstrate that your facility is eligible for either health-based compliance alternative, your eligibility demonstration must contain, at a minimum, the information in paragraphs (a) and (b)(1) through (3) of this section.

(1) Calculations used to determine the average stack height of the subpart DDDDD emission points that emit either manganese or HCl and $Cl_2$.

(2) Identification of the subpart DDDDD emission point, that emits either manganese or HCl and $Cl_2$, with the minimum distance to the property boundary of the facility.

(3) Comparison of the values in the look-up tables (Tables 2 and 3 of this appendix) to your maximum HCl-equivalent or manganese emission rates.

(c) If you use a site-specific compliance demonstration as described in section 7 of this appendix to demonstrate that your facility is eligible, your eligibility demonstration must contain, at a minimum, the information in paragraphs (a) and (c)(1) through (7) of this section:

(1) Identification of the risk assessment methodology used.

(2) Documentation of the fate and transport model used.

(3) Documentation of the fate and transport model inputs, including the information described in paragraphs (a)(1) through (5) of this section converted to the dimensions required for the model and all of the following that apply: meteorological data; building, land use, and terrain data; receptor locations and population data; and other facility-specific parameters input into the model.

(4) Documentation of the fate and transport model outputs.

(5) Documentation of any exposure assessment and risk characterization calculations.

(6) Comparison of the HQ HI to the limit of 1.0.

**9. When Do I Have to Complete and Submit My Health-Based Eligibility Demonstration?**

(a) If you have an existing affected source, you must complete and submit your eligibility demonstration to your permitting authority, along with a signed certification that the demonstration is an accurate depiction of your facility, no later than the date one year prior to the compliance date of subpart DDDDD. A separate copy of the eligibility demonstration must be submitted to: U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404–01), Attn: Group Leader, Research Triangle Park, North Carolina 27711, electronic mail address *REAG@epa.gov*.

(b) If you have a new or reconstructed affected source that starts up before the effective date of subpart DDDDD, or an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before the effective date of subpart DDDDD, then you must comply with the requirements of subpart DDDDD until your eligibility demonstration is completed and submitted to your permitting authority.

(c) If you have a new or reconstructed affected source that starts up after the effective date of subpart DDDDD, or an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP after the effective date for subpart DDDDD, then you must follow the schedule in paragraphs (c)(1) and (2) of this section.

(1) You must complete and submit a preliminary eligibility demonstration based on the information (*e.g.*, equipment types, estimated emission rates, etc.) used to obtain your title V permit. You must base your preliminary eligibility demonstration on the maximum emissions allowed under your title V permit. If the preliminary eligibility demonstration indicates that your affected source facility is eligible for either compliance alternative, then you may start up your new affected source and your new affected source will be considered in compliance with the alternative HCl standard and subject to the compliance requirements in this appendix or, in the case of manganese, your compliance demonstration with the TSM emission limit is based on 7 metals (excluding manganese).

(2) You must conduct the emission tests or fuel analysis specified in section 4 of this appendix upon initial startup and use the results of these emissions tests to complete and submit your eligibility demonstration within 180 days following your initial startup date. To be eligible, you must meet the criteria in section 11 of this appendix within 18 months following initial startup of your affected source.

**10. When Do I Become Eligible for the Health-Based Compliance Alternatives?**

To be eligible for either health-based compliance alternative, the parameters that defined your affected source as eligible for the health-based compliance alternatives (including, but not limited to, fuel type, fuel mix (annual average), type of control devices, process parameters reflecting the emissions rates used for your eligibility demonstration) must be submitted for incorporation as Federally enforceable limits into your title V permit. If you do not meet these criteria, then your affected source is subject to the applicable emission limits, operating limits, and work practice standards in Subpart DDDDD.

**11. How Do I Ensure That My Facility Remains Eligible for the Health-Based Compliance Alternatives?**

(a) You must update your eligibility demonstration and resubmit it each time you have a process change, such that any of the parameters that defined your affected source changes in a way that could result in increased HAP emissions (including, but not limited to, fuel type, fuel mix (annual average), change in type of control device, changes in process parameters documented as worst-case conditions during the emissions testing used for your approved eligibility demonstration).

(b) If you are updating your eligibility demonstration to account for an action in paragraph (a) of this section, then you must perform emission testing or fuel analysis according to section 4 of this appendix for the subpart DDDDD emission points that may have increased HAP emissions beyond the levels reflected in your previously approved eligibility demonstration due to the process


Attachment I
Attachment I

change. You must submit your revised eligibility demonstration to the permitting authority prior to revising your permit to incorporate the process change. If your updated eligibility demonstration indicates that your affected source is no longer eligible for the health-based compliance alternatives, then you must comply with the applicable emission limits, operating limits, and compliance requirements in Subpart DDDDD prior to making the process change and revising your permit.

**12. What Records Must I Keep?**

You must keep records of the information used in developing the eligibility demonstration for your affected source, including all of the information specified in section 8 of this appendix.

**13. Definitions**

The definitions in § 63.7575 of subpart DDDDD apply to this appendix. Additional definitions applicable for this appendix are as follows:

*Hazard Index (HI)* means the sum of more than one hazard quotient for multiple substances and/or multiple exposure pathways.

*Hazard Quotient (HQ)* means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For inhalation exposures, the HQ is calculated as the air concentration divided by the RfC.

*Look-up table analysis* means a risk screening analysis based on comparing the HAP or HAP-equivalent emission rate from the affected source to the appropriate maximum allowable HAP or HAP-equivalent emission rates specified in Tables 2 and 3 of this appendix.

*Reference Concentration (RfC)* means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

*Worst-case operating conditions* means operation of an affected unit during emissions testing under the conditions that result in the highest HAP emissions or that result in the emissions stream composition (including HAP and non-HAP) that is most challenging for the control device if a control device is used. For example, worst-case conditions could include operation of an affected unit firing solid fuel likely to produce the most HAP.

TABLE 1 TO APPENDIX B OF SUBPART DDDDD—EMISSION TEST METHODS

| For . . . | You must . . . | Using . . . |
|---|---|---|
| (1) Each subpart DDDDD emission point for which you choose to use a compliance alternative. | Select sampling ports' location and the number of traverse points. | Method 1 of 40 CFR part 60, appendix A. |
| (2) Each subpart DDDDD emission point for which you choose to use a compliance alternative. | Determine velocity and volumetric flow rate; ... | Method 2, 2F, or 2G in appendix A to 40 CFR part 60. |
| (3) Each subpart DDDDD emission point for which you choose to use a compliance alternative. | Conduct gas molecular weight analysis ..... | Method 3A or 3B in appendix A to 40 CFR part 60. |
| (4) Each subpart DDDDD emission point for which you choose to use a compliance alternative. | Measure moisture content of the stack gas .... | Method 4 in appendix A to 40 CFR part 60. |
| (5) Each subpart DDDDD emission point for which you choose to use the HCl compliance alternative. | Measure the hydrogen chloride and chlorine emission concentrations. | Method 26 or 26A in appendix A to 40 CFR part 60. |
| (6) Each subpart DDDDD emission point for which you choose to use the TSM compliance alternative. | Measure the manganese emission concentration. | Method 29 in appendix A to 40 CFR part 60. |
| (7) Each subpart DDDDD emission point for which you choose to use a compliance alternative. | Convert emissions concentration to lb per MMBtu emission rates. | Method 19 F-factor methodology in appendix A to part 60 of this chapter. |

TABLE 2 TO APPENDIX A OF SUBPART DDDDD—ALLOWABLE TOXICITY-WEIGHTED EMISSION RATE EXPRESSED IN HCl EQUIVALENTS (lbs/hr)

| Stack ht. (m) | Distance to property boundary (m) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 50 | 100 | 150 | 200 | 250 | 500 | 1000 | 1500 | 2000 | 3000 | 5000 |
| 5 | 114.9 | 114.9 | 114.9 | 114.9 | 114.9 | 114.9 | 144.3 | 287.3 | 373.0 | 373.0 | 373.0 | 373.0 |
| 10 | 188.5 | 188.5 | 188.5 | 188.5 | 188.5 | 188.5 | 195.3 | 328.0 | 432.5 | 432.5 | 432.5 | 432.5 |
| 20 | 386.1 | 386.1 | 386.1 | 386.1 | 386.1 | 386.1 | 386.1 | 425.4 | 580.0 | 602.7 | 602.7 | 602.7 |
| 30 | 396.1 | 396.1 | 396.1 | 396.1 | 396.1 | 396.1 | 396.1 | 436.3 | 596.2 | 690.6 | 807.8 | 816.5 |
| 40 | 408.1 | 408.1 | 408.1 | 408.1 | 408.1 | 408.1 | 408.1 | 448.2 | 613.3 | 715.5 | 832.2 | 966.0 |
| 50 | 421.4 | 421.4 | 421.4 | 421.4 | 421.4 | 421.4 | 421.4 | 460.6 | 631.0 | 746.3 | 858.2 | 1002.8 |
| 60 | 435.5 | 435.5 | 435.5 | 435.5 | 435.5 | 435.5 | 435.5 | 473.4 | 649.0 | 778.6 | 885.0 | 1043.4 |
| 70 | 450.2 | 450.2 | 450.2 | 450.2 | 450.2 | 450.2 | 450.2 | 486.6 | 667.4 | 813.8 | 912.4 | 1087.4 |
| 80 | 465.5 | 465.5 | 465.5 | 465.5 | 465.5 | 465.5 | 465.5 | 500.0 | 685.9 | 849.8 | 940.9 | 1134.8 |
| 100 | 497.5 | 497.5 | 497.5 | 497.5 | 497.5 | 497.5 | 497.5 | 527.4 | 723.6 | 917.1 | 1001.2 | 1241.3 |
| 200 | 677.3 | 677.3 | 677.3 | 677.3 | 677.3 | 677.3 | 677.3 | 682.3 | 919.8 | 1167.1 | 1390.4 | 1924.6 |

TABLE 3 TO APPENDIX A OF SUBPART DDDDD—ALLOWABLE MANGANESE EMISSION RATE (lbs/hr)

| Stack ht. (m) | Distance to property boundary (m) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 50 | 100 | 150 | 200 | 250 | 500 | 1000 | 1500 | 2000 | 3000 | 5000 |
| 5 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.36 | 0.72 | 0.93 | 0.93 | 0.93 | 0.94 |
| 10 | 0.47 | 0.47 | 0.47 | 0.47 | 0.47 | 0.47 | 0.49 | 0.82 | 1.08 | 1.08 | 1.08 | 1.08 |
| 20 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 1.06 | 1.45 | 1.51 | 1.51 | 1.51 |
| 30 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 1.09 | 1.49 | 1.72 | 2.02 | 2.04 |
| 40 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.12 | 1.53 | 1.79 | 2.08 | 2.42 |
| 50 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.15 | 1.58 | 1.87 | 2.15 | 2.51 |
| 60 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.18 | 1.62 | 1.95 | 2.21 | 2.61 |
| 70 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.22 | 1.67 | 2.03 | 2.28 | 2.72 |
| 80 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 | 1.25 | 1.71 | 2.12 | 2.35 | 2.84 |
| 100 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.32 | 1.81 | 2.29 | 2.50 | 3.10 |
| 200 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.71 | 2.30 | 2.92 | 3.48 | 4.81 |

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# Part II

# Environmental Protection Agency

## 40 CFR Part 63

## National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil; Final Rule

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 63**

**[FRL–7214–6]**

**RIN 2060–AG97**

## National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** This action promulgates national emission standards for hazardous air pollutants (NESHAP) for new and existing sources that coat metal coil. The EPA has identified metal coil surface coating as a major source of hazardous air pollutant (HAP) emissions such as methyl ethyl ketone, glycol ethers, xylenes (isomers and mixtures), toluene, and isophorone. Each of these major HAP can cause reversible or irreversible toxic effects following sufficient exposure. The potential toxic effects include eye, nose, throat, and skin irritation, and blood cell, heart, liver, and kidney damage.

The final rule implements section 112(d) of the Clean Air Act (CAA) and will require all new and existing metal coil coating operations that are major sources to meet HAP emission standards reflecting the application of the maximum achievable control technology (MACT). The EPA estimates that the final rule will reduce nationwide HAP emissions from metal coil coating operations by approximately 53 percent. The emissions reductions achieved by these NESHAP, when combined with the emissions reductions achieved by other similar standards, will provide protection to the public and achieve a primary goal of the CAA.

**DATES:** Effective June 10, 2002. The incorporation by reference of certain publications in this rule is approved by the Director of the Federal Register as of June 10, 2002.

**ADDRESSES:** Docket No. A–97–47 contains supporting information used in developing the standards. The docket is located at the U.S. EPA, 401 M Street, SW., Washington, DC 20460 in Room M–1500, Waterside Mall (ground floor), and may be inspected from 8:30 a.m. to 5:30 p.m., Monday through Friday, excluding legal holidays.

**FOR FURTHER INFORMATION CONTACT:** For information concerning applicability and rule determinations, contact your State or local representative or the appropriate EPA Regional Office representative. For information concerning the analyses performed in developing these NESHAP, contact Ms. Rhea Jones, Coatings and Consumer Products Group (C539–03), Emission Standards Division, U.S. EPA, Research Triangle Park, NC 27711, telephone number (919) 541–2940, facsimile number (919) 541–5689; electronic mail address: jones.rhea@epa.gov.

**SUPPLEMENTARY INFORMATION:** *Docket.* The docket is an organized and complete file of all the information considered by the EPA in the development of the final rule. The docket is a dynamic file because material is added throughout the rulemaking process. The docketing system is intended to allow members of the public and industries involved to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the proposed and promulgated standards and their preambles, the contents of the docket will serve as the record in the case of judicial review. (See section 307(d)(7)(A) of the CAA.) The regulatory text and other materials related to the final rule are available for review in the docket or copies may be mailed on request from the Air Docket by calling (202) 260–7548. A reasonable fee may be charged for copying docket materials.

*World Wide Web (WWW).* In addition to being available in the docket, an electronic copy of the final rule will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the final rule will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules *http://www.epa.gov/ttn/oarpg.* The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541–5384.

*Regulated Entities.* If a metal coil coating line is operated at your facility, it may be a regulated entity. Categories and entities potentially regulated by this action include:

| Category | NAICS codes | Examples of potentially regulated entities |
|---|---|---|
| Metal Coil Coating Industry ..... | 332812[a], 323122, 339991, 326113, 32613, 32614, 331112, 331221, 33121, 331312, 331314, 331315, 331319, 332312, 332322, 332323, 332311, 33637, 332813, 332999, 333293, 336399, 325992, 42183. | Those facilities that perform surface coating of metal coil using HAP-containing materials. |

[a] The majority of facilities are included in NAICS 332812.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility is regulated by this action, you should examine the applicability criteria in § 63.5090 of the final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the appropriate EPA Regional Office representative.

*Judicial Review.* The NESHAP for Metal Coil Coating were proposed on July 18, 2000 (65 FR 44616). The final rule announces the EPA's final decision on the rule. Under section 307(b)(1) of the CAA, judicial review of these NESHAP is available by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by August 9, 2002. Only those objections to the rule which were raised with reasonable specificity during the period for public comment may be raised during judicial review. Under section 307(b)(2) of the CAA, the requirements that are the subject of the final rule may not be challenged later in civil or criminal court brought by the EPA to enforce these requirements.

*Outline.* The information presented in this preamble is organized as follows:

I. What are the background and public participation for the rule?
II. What are the final standards?
A. What facilities are subject to the rule?
B. What is the affected source?
C. What are the emission limits and operating limits?
D. What pollutants are limited by the rule?
E. When do I show initial compliance with the standards?
F. How do I demonstrate compliance?
G. What are the notification, recordkeeping, and reporting requirements?
III. What are the major changes we have made to the rule since proposal?
A. Rule applicability
B. Emission standards
C. Operating limits

D. Compliance demonstration
IV. What are the responses to major comments?
A. Impact analysis
B. Rule applicability
C. Definitions
D. MACT floor determination
E. Achievability of the Standards
F. Monitoring
G. Administrative Requirements
V. What are the environmental, energy, cost, and economic impacts?
A. What are the HAP emissions reductions?
B. What are the secondary environmental impacts?
C. What are the energy impacts?
D. What are the cost impacts?
E. What are the economic impacts?
VI. What are the administrative requirements?
A. Executive Order 12866, Regulatory Planning and Review
B. Executive Order 13132, Federalism
C. Executive Order 13175, Consultation and Coordination with Indian Tribal Governments
D. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks
E. Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use
F. Unfunded Mandates Reform Act of 1995
G. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Act of 1996 (SBREFA), 5 U.S.C. 601, *et seq.*
H. Paperwork Reduction Act
I. National Technology Transfer and Advancement Act of 1995
J. Congressional Review Act

## I. What Are the Background and Public Participation for the Rule?

Section 112 of the CAA requires EPA to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. Major sources of HAP are those that have the potential to emit greater than 9.07 megagrams per year (Mg/yr) (10 tons per year (tpy)) of any one HAP or 22.68 Mg/yr (25 tpy) of any combination of HAP.

Section 112 of the CAA requires that we establish NESHAP for the control of HAP from both new and existing major sources. The CAA requires the NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable. This level of control is commonly referred to as MACT.

The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. In essence, the MACT floor ensures that the standard is set at a level that assures that all major sources achieve the level of control at least as stringent as that already achieved by the better-controlled and lower-emitting sources in each source category or subcategory. For new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing 5 sources for categories or subcategories with fewer than 30 sources) (CAA section 112(d)(3)).

In developing MACT, we also consider control options that are more stringent than the floor. We may establish standards that are more stringent than the floor based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements (CAA section 112(d)(2)).

On July 16, 1992 (57 FR 31576), we published a list of source categories slated for regulation under section 112(c). The source category list included the metal coil coating (surface coating) source category regulated by the standards being promulgated today. We proposed standards for the metal coil coating sources covered by the rule on July 18, 2000 (65 FR 44616).

The preamble for the proposed standards described the rationale for the proposed standards. Public comments were solicited at the time of the proposal. The public comment period lasted from July 18, 2000 to September 18, 2000. Industry representatives, regulatory agencies, environmental groups, and the general public were given the opportunity to comment on the proposed rule and to provide additional information during and after the public comment period. Although we offered at proposal the opportunity for oral presentation of data, views, or arguments concerning the proposed rule, no one requested a public hearing, and a public hearing was not held.

We received a total of 17 letters containing comments on the proposed rule. Commenters included individual companies with coil coating operations, industry trade associations, State regulatory agencies, and an association of air pollution control vendors. Today's final rule reflects our full consideration of all of the comments received. Major public comments on the proposed rule, along with our responses to those comments, are summarized in this preamble. See the Summary of Public Comments and Responses document for a more detailed discussion of public comments and our responses (docket number A–97–47).

## II. What Are the Final Standards?

### *A. What Facilities Are Subject to This Rule?*

Metal coil surface coating is a process-specific rather than a product-specific operation. Accordingly, the final rule applies to you if you own or operate any coil coating line at a facility that is a major source of HAP emissions. We have defined a coil coating line as a process and the collection of equipment used to apply an organic coating to the surface of metal coil that is at least 0.15 millimeter (0.006 inch) thick. A coil coating line includes a web unwind or feed section, a series of one or more work stations, any associated curing oven, wet section, and quench station. A coil coating line does not include ancillary operations such as mixing/thinning, cleaning, wastewater treatment, and storage of coating material.

You are not subject to the final rule if your coil coating line is located at an area source. An area source of HAP is any facility that has the potential to emit HAP but is not a major source. You may establish area source status by limiting the source's potential to emit HAP through appropriate mechanisms available through your permitting authority.

The requirements of the final rule do not apply to a coil coating line that is part of research or laboratory equipment, coats metal coil for use in flexible packaging, or is a coil coating line on which 85 percent or more of the metal coil coated, based on surface area, is less than 0.15 millimeter (0.006 inch) thick. If you operate a coil coating line on which 85 percent or more of the metal coil coated, based on surface area, is less than 0.15 millimeter (0.006 inch) thick, it would be subject to the Paper and Other Web Coating NESHAP (40 CFR part 63, subpart JJJJ) currently under development. However, you may choose to demonstrate compliance with the requirements of today's rule instead of those of subpart JJJJ if either of the following two criteria applies: (1) The coating line is used to coat metal coil of thicknesses both less than and greater than or equal to 0.15 millimeter (0.006 inch) thick, regardless of the percentage of surface area of each thickness coated, or (2) the coating line is used to coat only metal coil that is less than 0.15 millimeter (0.006 inch) thick and the coating line is controlled by a common control device that also receives organic

HAP emissions from a coil coating line that is subject to the requirements of this subpart. Compliance with the requirements of today's rule in accordance with either of the above criteria constitutes compliance with the Paper and Other Web Coating NESHAP (40 CFR part 63, subpart JJJJ), therefore, you would not be subject to the compliance demonstration requirements of subpart JJJJ.

This rule does not apply to facilities that print a company logo for identification purposes or other markings for inventory control purposes onto bare, uncoated metal coils using flexographic printing equipment, where no other coating is applied.

A major source is also subject to all other applicable NESHAP for the various source categories, other than metal coil coating and paper and other web coating, that may be present at the facility. This means your facility may be subject to multiple NESHAP, and you are responsible for complying with the standards set for each NESHAP.

*B. What Is the Affected Source?*

We define an affected source as a stationary source, group of stationary sources, or part of a stationary source to which a specific emission standard applies. Within a source category, we select the specific emission sources (emission points or groupings of emission points) that will make up the affected source for that category.

For the final metal coil NESHAP, the affected source subject to the emission standards is the collection of all of the metal coil coating lines at your facility. The portions of the metal coil coating line to which the emission limitations apply are the coating application stations and associated curing ovens. Wet section/pretreatment and quench operations are part of the metal coil coating line, but are not subject to the emission limitations. The coil coating line does not include ancillary operations such as storage of coating and cleaning material, wastewater treatment, coating material mixing/thinning, and parts and equipment cleaning and, therefore, the standards do not apply to these operations.

*C. What Are the Emission Limits and Operating Limits?*

*Emission Limits.* Today's final rule provides you the option of limiting organic HAP emissions to one of the following three specified levels: (1) No more than 2 percent of the organic HAP applied (98 percent overall control efficiency (OCE) limit); (2) no more than 0.046 kilogram of organic HAP per liter (kg/l) (0.38 pound per gallon (lb/gal)) of solids applied during each 12-month compliance period (emission rate limit); or (3) if you are using an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) on a dry basis is achieved and the efficiency of the capture system is 100 percent (outlet concentration limit).

You may choose from several compliance options in the final rule to achieve the emission limits. You may comply through a pollution prevention approach by applying only coating materials that meet the emission rate limit, either individually or collectively. Second, you may use a capture system and add-on control device to either reduce emissions by 98 percent or by the degree needed to meet the emission rate limit. Third, you may use a 100 percent efficient capture system and an oxidizer that reduces organic HAP emissions to no more than 20 ppmv.

*Operating Limits.* If you reduce emissions by using a capture system and add-on control device (other than a solvent recovery system for which you conduct a liquid-liquid material balance), the final operating limits would apply to you. These limits are site-specific parameter limits that you determine during the initial performance test of the system. For capture systems, you must develop a capture system monitoring plan. The monitoring plan must identify the operating parameter to be monitored, explain why this parameter is appropriate for demonstrating ongoing compliance, and identify the specific monitoring procedures. In the plan you must specify operating limits for the capture system operating parameter that demonstrate compliance with the emission limits. The monitoring plan must be available for inspection by your permitting authority upon request.

For thermal oxidizers, you must monitor the combustion temperature. For catalytic oxidizers, you must either monitor the temperature immediately before and after the catalyst bed, or you must monitor the temperature before the catalyst bed and prepare and implement an inspection and maintenance plan that includes periodic catalyst activity checks.

The site-specific operating limits that you establish must reflect operation of the capture system and control device during a performance test that demonstrates achievement of the emission limits during representative operating conditions.

If you use a capture system and control device for compliance, you are required to develop and operate according to a startup, shutdown, and malfunction plan (SSMP) during periods of startup, shutdown, or malfunction of the capture system and control device.

The NESHAP General Provisions of 40 CFR part 63, subpart A codify certain procedures and criteria for all 40 CFR part 63 NESHAP and also apply to you, as indicated in Table 2 to subpart SSSS. The General Provisions contain administrative procedures, preconstruction review procedures for new sources, and procedures for conducting compliance-related activities such as notifications, reporting and recordkeeping, performance testing, and monitoring. Subpart SSSS refers to individual sections of the General Provisions to highlight key sections that are relevant. However, unless specifically overridden in Table 2 to subpart SSSS of Part 63, all of the applicable General Provisions requirements apply to you.

In addition to the metal coil surface coating NESHAP, you may also be subject to other future or existing rules, such as State rules requiring reasonably available control technology limits on volatile organic compounds (VOC) emissions or the new source performance standards (NSPS) in 40 CFR part 60, subpart TT. You must comply with all rules that apply to you. Compliance with different standards should be resolved through your title V permit.

**D. What Pollutants Are Limited by the Rule?**

Today's final rule limits total organic HAP emissions from coil coating lines. These organic HAP are included on the list of HAP in section 112(b) of the CAA.

*E. When Do I Show Initial Compliance With the Standards?*

Existing sources will have to comply with today's final rule no later than 3 years after June 10, 2002. New or reconstructed sources must comply immediately upon startup of the affected source or by June 10, 2002, whichever is later.

The initial compliance period begins on the applicable compliance date described above for an existing source or a new or reconstructed source and ends on the last day of the 12th month following the compliance date. If the compliance date falls on any day other than the first day of the month, then the initial compliance period extends through that month plus the next 12 months. For the purpose of demonstrating continuous compliance, a compliance period consists of 12 months. Each month after the end of the

initial compliance period is the end of a compliance period consisting of that month and the preceding 11 months. We have defined ''month'' as a calendar month or a pre-specified period of 28 to 35 days to allow for flexibility at sources where data are based on a business accounting period.

*F. How Do I Demonstrate Compliance?*

You must account for all coating materials used in the affected source when determining compliance with the applicable emission limit. To make this determination, you must use at least one of the following compliance options: use of ''as purchased'' individually compliant coating materials (compliance option 1); use of ''as applied'' compliant coating materials (compliance option 2); use of a capture system and control device to achieve 98 percent OCE or 20 ppmv outlet (compliance option 3); and use of a capture system and control devices to maintain an acceptable emission rate (compliance option 4). You may apply any of the compliance options to an individual coil coating line, or to multiple lines as a group, or to the entire affected source. You may use different compliance options for different coil coating lines, or at different times on the same line. However, you may not use different compliance options at the same time on the same coil coating line. If you switch between compliance options for any coil coating line or group of lines, you must document this switch, and you must report it in your next semiannual compliance report.

If you use compliance option 1, then you must demonstrate that the organic HAP in each coating material used during each compliance period does not exceed 0.046 kg/l (0.38 lb/gal) of solids, as purchased.

There are two procedures for demonstrating compliance through the use of compliance option 2. You may either demonstrate that the organic HAP in each coating material used does not exceed 0.046 kg/l (0.38 lb/gal) of solids, as applied for each compliance period or demonstrate that the average of all coating materials used does not exceed this limit for each compliance period.

If you use compliance option 3, then you must demonstrate that either the overall organic HAP control efficiency is at least 98 percent on a monthly basis for individual or groups of coil coating lines; or overall organic HAP control efficiency is at least 98 percent during the initial performance test for individual coil coating lines; or oxidizer organic HAP outlet concentration is no greater than 20 ppmv and there is 100 percent capture efficiency during the initial performance test. When using emission capture and add-on controls to demonstrate compliance, you must also demonstrate that applicable operating limits are achieved continuously.

If you use compliance option 4, then you must demonstrate that the average organic HAP emission rate does not exceed 0.046 kg/l (0.38 lb/gal) of solids applied during each compliance period.

In addition to the testing and monitoring requirements specified below for the affected source to demonstrate compliance, the final rule adopts the testing requirements specified in § 63.7.

1. Test Methods and Procedures

If you demonstrate compliance with compliance option 1 or 2 based on the application of compliant coating materials on your coil coating lines or with compliance option 4 based on the combination of coating materials applied and control devices, you must determine the organic HAP content or the volatile matter content, and the solids content of coating materials ''as purchased'' or ''as applied.'' To determine organic HAP content, you may either use EPA Method 311 of appendix A of 40 CFR part 63, use an alternative method for determining the organic HAP content (but only after obtaining EPA approval), or use the nonaqueous volatile matter content of the coating materials applied as a surrogate for the organic HAP content. The nonaqueous volatile matter content, which would include all organic HAP plus all other organic compounds (excluding water), must be determined by EPA Method 24 of appendix A of 40 CFR part 60, or an EPA approved alternative method. You may rely on manufacturer's data to determine the organic HAP content or volatile matter content. However, if there is any inconsistency between the results of the test methods specified above (or an approved alternative) and manufacturer's or supplier's data, the test method results will prevail for compliance and enforcement purposes. You may use the test methods specified in the rule for determining volume solids content of the coating materials (ASTM D2697–86 (Reapproved 1998) or ASTM D6093–97), or you may rely on manufacturer's or supplier's data.

You must determine the mass of each coating material ''as purchased'' or ''as applied'' using company records. If diluent solvents or other ingredients are added to a coating material prior to application, then the total organic HAP fractions and mass of coating material ''as applied'' must be adjusted appropriately to account for such additions. You must calculate the organic HAP content, solids content, and mass of all coating materials applied on the coil coating lines for each monthly period. However, only changes in a material formulation would require a re-determination of total organic HAP mass fraction for that coating material.

If you use an emission capture and control system to comply with compliance option 3 of the standard, you must demonstrate either the OCE or the oxidizer outlet HAP concentration is achieved. Alternatively, in accordance with compliance option 4, you may use capture and control equipment to demonstrate you meet the organic HAP emission rate limit specified. To comply using this approach, you must determine the OCE of the equipment and the organic HAP and solids content of the coating materials applied. These values must be determined for each monthly period and combined to determine the emission rate for each rolling 12-month compliance period.

If you use a capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances, you would use the specified test methods to determine both the efficiency of the capture system and the emission reduction efficiency of the control device (or the oxidizer outlet organic HAP concentration). To determine the capture efficiency, you must either verify the presence of a permanent total enclosure (PTE) using EPA Method 204 of 40 CFR part 51, appendix M (and all coating materials must be applied and dried within the enclosure); or use EPA Method 204A through F of 40 CFR part 51, appendix M, to measure capture efficiency. If you have a PTE and all materials are applied and dried within the enclosure and you route all exhaust gases from the enclosure to a control device, you assume 100 percent capture. To demonstrate compliance using the oxidizer outlet organic HAP concentration limit, 100 percent capture is required.

You must determine the emission reduction efficiency of a control device or the oxidizer outlet organic HAP concentration by conducting a performance test or using a continuous emission monitoring system (CEMS). If you use CEMS to calculate the control efficiency, you must measure both the inlet and outlet concentrations. The CEMS must comply with performance specification 8 or 9 in 40 CFR part 60, appendix B.

If you conduct a performance test, we are requiring that the emission

reduction efficiency of a control device or the oxidizer outlet organic HAP concentration be determined based on three runs, each run lasting 1 hour. Method 1 or 1A of 40 CFR part 60, appendix A is used for selection of the sampling sites. Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR part 60, appendix A, is used to determine the gas volumetric flow rate. Method 3, 3A, or 3B of 40 CFR part 60, appendix A, is used for gas analysis to determine dry molecular weight. You may also use as an alternative to Method 3B, the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas in ASME PTC 19–10–1981–Part 10, ''Flue and Exhaust Gas Analyses.'' Method 4 of 40 CFR part 60, appendix A, is used to determine stack moisture. Method 25 or 25A of 40 CFR part 60, appendix A, is used to determine organic volatile matter concentration. You must use Method 25A to demonstrate compliance with the oxidizer outlet organic HAP concentration limit because the limit is less than 50 ppmv. Alternatively, any other test method or data that have been validated according to the applicable procedures in Method 301 of 40 CFR part 63, appendix A, may be used upon obtaining approval by the Administrator. If you use a solvent recovery system, you may choose to determine the OCE using a liquid-liquid material balance instead of conducting an initial performance test. If you use the material balance alternative, you must measure the amount of all coating materials applied in the controlled coating operations served by the solvent recovery system during each month and determine the total volatile matter content of these materials. You must also measure the amount of volatile matter recovered by the solvent recovery system during the month and compare the amount recovered to the amount used to determine the OCE.

2. Monitoring Requirements

Monitoring is required by the standards to ensure that an affected source that does not use CEMS to demonstrate compliance is in continuous compliance. Monitoring requirements apply if you comply with the rule using emission capture and control devices to meet compliance option 3 or 4.

You must establish operating limits as part of the initial performance test of a capture system and control device other than a solvent recovery system for which you conduct liquid-liquid material balances. The operating limits are the minimum or maximum (as applicable) values achieved for capture systems and control devices during the most recent performance test, conducted under representative conditions, that demonstrated compliance with the emission limits.

The final rule specifies the parameters to monitor for oxidizers, the type of add-on control device most commonly used in the industry. You must install, calibrate, maintain, and continuously operate all monitoring equipment according to manufacturer's specifications and ensure that the continuous parameter monitoring systems (CPMS) meet the requirements in § 63.5150 of today's final rule. If you use control devices other than oxidizers, you must submit the operating parameters to be monitored to the Administrator for approval. The authority to approve the parameters to be monitored is retained by the Administrator and is not delegated to States.

If you use a capture and control system to meet the emission limits and you do not use liquid-liquid material balances to demonstrate compliance, you are required to develop a capture system monitoring plan identifying the operating parameter(s) to be monitored, explaining the appropriateness of the parameter(s) for demonstrating ongoing compliance, and identifying the specific monitoring procedures. The monitoring plan also must establish operating limits at the capture system operating parameter value, or range of values, that demonstrates compliance with the emission limits. The plan must be available for inspection by the permitting authority upon request. You must monitor in accordance with your plan.

After proposal of this NESHAP, we developed criteria to be used for setting operating parameter limits for monitoring capture systems and proposed them in other surface coating NESHAP (*see,* for an example, the proposal of Subpart NNNN—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Large Appliances (65 FR 81133). These or similar criteria will be included in implementation materials we are developing for today's final rule as an example that facilities may follow in developing their monitoring plans.

If you use a thermal or catalytic oxidizer, you must continuously monitor the appropriate temperature and record it at least every 15 minutes. For thermal oxidizers, the temperature monitor is placed in the firebox or in the duct immediately downstream of the firebox before any substantial heat exchange occurs. The operating limit is the average temperature measured during each performance test; for each consecutive 3-hour period, the average temperature must be at or above this limit. For catalytic oxidizers, temperature monitors are placed immediately before and after the catalyst bed. The operating limits are the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed during the performance test. For each 3-hour period, the average temperature and the average temperature difference are required to be at or above these limits. Alternatively, you are allowed to meet only the temperature limit before the catalyst bed if you develop and implement an inspection and maintenance plan for the catalytic oxidizer.

If you operate metal coil coating lines with intermittently-controllable work stations, you must demonstrate that captured organic HAP emissions within the affected source are being routed to the control device by monitoring for potential bypass of the control device. You may choose from the following four monitoring options:

(1) Flow control position indicator to provide a record of whether the exhaust stream is directed to the control device;

(2) Car-seal or lock-and-key valve closures to secure the bypass line valve in the closed position when the control device is operating;

(3) Valve closure continuous monitoring to ensure any bypass line valve or damper is closed when the control device is operating; or

(4) Automatic shutdown system to stop the coil coating operation when flow is diverted from the control device.

A deviation would occur for any period of time the bypass monitoring indicates that emissions are not routed to the control device.

If you use a solvent recovery system, you must conduct monthly liquid-liquid material balances or operate CEMS as described above in the test methods and procedures section of this preamble.

If you use a capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances, you are required to achieve on a continuous basis the operating limits you establish during the performance test. In addition, to demonstrate continuos compliance with compliance option 4, you must record data on the organic HAP and solids content of the coating materials applied to determine the organic HAP emission rate for each compliance period.

*G. What Are the Notification, Recordkeeping, and Reporting Requirements?*

You are required to comply with the applicable requirements in the NESHAP General Provisions, subpart A of 40 CFR part 63, as indicated in Table 2 to subpart SSSS. The General Provisions notification requirements include: initial notifications, notification of performance test if you are complying using a capture system and control device, notification of compliance status, and additional notifications required for affected sources with continuous monitoring systems. The General Provisions also require certain records and periodic reports.

1. Initial Notification

If you own or operate an existing affected source, you must send a notification to the EPA Regional Office in the region where your facility is located and to your State agency no later than 2 years after June 10, 2002. For new and reconstructed sources, you must send the notification within 120 days after the date of initial startup or 120 days after June 10, 2002, whichever is later. That report notifies us and your State agency that you have an existing affected source that is subject to today's NESHAP or that you have constructed a new affected source. Thus, it allows you and the permitting authority to plan for compliance activities. You also need to send a notification of planned construction or reconstruction of a source that will be subject to the final rule and apply for approval to construct or reconstruct.

2. Notification of Performance Test

If you demonstrate compliance by using a capture system and control device for which you do not conduct a liquid-liquid material balance, you must conduct a performance test. The performance test is required no later than the compliance date for an existing affected source. For a new or reconstructed affected source, the performance test is required no later than 180 days after startup or 180 days after today's date, whichever is later. You must notify us (or the delegated State or local agency) at least 60 calendar days before the performance test is scheduled to begin and submit a report of the performance test results no later than 60 days after the test.

3. Notification of Compliance Status

You must submit a Notification of Compliance Status within 30 days after the end of the initial 12-month compliance period. In the notification, you must certify whether each affected source has complied with the final standards, identify the option(s) you used to demonstrate initial compliance, summarize the data and calculations supporting the compliance demonstration, and provide information on any deviations from the emission limits, operating limits, or other requirements.

If you elect to comply by using a capture system and control device for which you conduct performance tests, you must provide the results of the tests. Your notification must also include the measured range of each monitored parameter, the operating limits established during the performance test, and information showing whether the source has complied with its operating limits during the initial compliance period.

4. Recordkeeping Requirements

You must keep records of reported information and all other information necessary to document compliance with today's final rule for 5 years. As required under the General Provisions, records for the 2 most recent years must be kept on-site; the other 3 years' records may be kept off-site. Records pertaining to the design and operation of the control and monitoring equipment must be kept for the life of the equipment.

Depending on the compliance option you choose, you may have to keep records of one or more of the following:

- Organic HAP, volatile matter, and solids content of the coating materials, ''as purchased'' or ''as applied.''
- Monthly usage of coating materials, organic HAP, volatile matter, and solids and compliance demonstrations using these data.
- Continuous monitoring system measurements.
- Liquid-liquid material balances.

If you demonstrate compliance by using a capture system and control device, you must keep records of the following:

- All required measurements, calculations, and supporting documentation needed to demonstrate compliance with the standards.
- All results of performance tests and parameter monitoring.
- All information necessary to demonstrate conformance with the affected source's SSMP when the plan procedures are followed.
- The occurrence and duration of each startup, shutdown, or malfunction of the emission capture system and control device.
- Actions taken during startup, shutdown, and malfunction that are different from the procedures specified in the affected source's SSMP.
- Each period during which a CPMS is malfunctioning or inoperative (including out-of-control periods).

Today's final rule requires you to collect and keep records according to certain minimum data requirements for the CPMS. Failure to collect and keep the specified minimum data would be a deviation that is separate from any emission limits or operating limits.

Deviations, as determined from these records, need to be recorded and also reported. A deviation is any instance when any requirement or obligation established by the final rule including, but not limited to, the emission limits and operating limits, is not met.

If you use a capture system and control device to reduce organic HAP emissions, you must make your SSMP available for inspection if the Administrator requests to see it. The plan must stay in your records for the life of the affected source or until the source is no longer subject to the proposed standards. If you revise the plan, you need to keep the previous superseded versions on record for 5 years following the revision.

5. Periodic Reports

Each reporting year is divided into two semiannual reporting periods. If no deviations occur during a semiannual reporting period, you must submit a semiannual report stating that the affected source has been in compliance. If deviations occur, you must include them in the report as follows:

- Report each deviation from the emission limit.
- If you use an emission capture system and control device other than a solvent recovery system for which you conduct liquid-liquid material balances, report each deviation from an operating limit and each time a bypass line diverts emissions from the control device to the atmosphere.
- Report other specific information on the periods of time the deviations occurred.

You also must include in each semiannual report an identification of the compliance option(s) you used for each affected source and the beginning dates you used each compliance option.

6. Other Reports

You are required to submit reports for periods of startup, shutdown, and malfunction of the capture system and control device. If the procedures you follow during any startup, shutdown, or malfunction are inconsistent with your plan, you must report those procedures with your semiannual reports in

addition to immediate reports required by 40 CFR 63.10(d)(5)(ii).

## III. What Are the Major Changes We Have Made to the Rule Since Proposal?

This section summarizes the major changes we have made to the rule since proposal. We made the changes to clarify the rule's requirements and to respond to public comments on the proposed rule. A summary of responses to major comments regarding rule requirements is presented in section IV.B of this preamble.

### *A. Rule Applicability*

The rule applicability has been clarified through revisions to the definition of a coil coating line and related definitions and the addition of a paragraph explicitly presenting criteria under which today's rule does not apply to a coil coating line. Also, a paragraph has been added that gives you compliance options if you operate a coating line(s) that coats both coil and foil.

The revised definition of a coil coating line incorporates the proposed definition of coil coating operation (the collection of equipment used to apply an organic coating to the surface of metal coil that is at least 0.15 millimeter (0.006 inch) thick). The definition of coil coating operation has been removed from the final standard. The coating of metal coil for use in flexible packaging (subject to the requirements of 40 CFR part 63, subpart JJJJJ) is explicitly exempted from the requirements of today's rule through a revision to the definition of metal coil stating that metal coil does not include metal webs that are coated for use in flexible packaging. A definition of flexible packaging has been added to the final rule. A definition of protective oil, which is identified as a material not considered to be a coating in this subpart, has been added to the final rule to clarify what it includes.

A paragraph that explicitly presents two criteria under which today's rule does not apply to a coil coating line has been added. The first criterion, for a coil coating line that is part of research or laboratory equipment, was proposed in § 63.5100 as an exception to the emission sources affected by this subpart, and has been moved to the applicability statement of § 63.5090. The second criterion, for a coating line that predominantly coats foil (a metal strip that is less than 0.006 inch thick), has been added to the final rule.

The paragraph that has been added provides compliance options for a coating line subject to both this subpart and 40 CFR part 63, subpart JJJJJ which is currently under development. It allows you to comply only with this subpart if you operate a coating line that coats both coil and foil, regardless of the amount of each coated or if you coat only foil but the coating line is controlled by a common control device that also receives organic HAP emissions from a coil coating line that is subject to the requirements of this subpart. Compliance with this subpart would constitute compliance with subpart JJJJJ.

### *B. Emission Standards*

The proposed emission rate limit has been revised in the final rule, and an oxidizer outlet concentration limit has been added. Also, the language of the emission standards has been revised to reflect the change in the compliance period from one month to a 12-month compliance period, as is described in section III.D of this preamble.

The proposed emission rate limit would have limited organic HAP emissions to no more than 0.029 kg/l (0.24lb/gal) of solids applied for the month. The final emission rate limit requires that the level of organic HAP be no more than 0.046 kg/l (0.38lb/gal) of solids applied during each 12-month compliance period.

If you use an oxidizer to control organic HAP emissions, the final rule allows you to operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 ppmv by compound on a dry basis is achieved, provided the efficiency of the capture system is 100 percent. This outlet concentration limit provides oxidizers with an alternative to the 98 percent OCE limit.

### *C. Operating Limits*

In response to comments regarding the definition of deviation as it relates to the failure to meet operating parameters, oxidizer monitoring, and the establishment of the operating parameter to be monitored, we have added § 63.5121 entitled ''What operating limits must I meet?'' to the final rule. This section clarifies that the operating limits must be met at all times after you establish them and presents the applicable operating limits for oxidizers and methods of demonstrating continuous compliance with the operating limits in Table 1 to subpart SSSS.

The catalytic oxidizer operating parameter monitoring requirements have been revised to incorporate the option of catalyst bed inlet and outlet gas temperature monitoring that is described below. Regarding capture system monitoring, the proposed requirement that you submit your monitoring plan to the Administrator has been revised to require only that you make the monitoring plan available for inspection by the permitting authority upon request.

We have also added a specific operating limits paragraph to section 63.5160 of the final rule to clarify the specific procedures to be followed to establish the operating limits during a performance test. The procedures for establishing the operating limits for a catalytic oxidizer have been corrected in the final rule to require that both the outlet temperature and the inlet temperature to the catalyst bed be used as operating parameters in order to calculate the temperature change across the catalyst bed. In addition, an alternative to this monitoring has been added to the final rule. In lieu of monitoring the inlet and outlet gas temperatures to calculate temperature change across the catalyst bed, you may monitor the gas temperature at the inlet to the catalyst bed and develop and implement an inspection and maintenance plan for the catalytic oxidizer.

### *D. Compliance Demonstration*

Revisions to the proposed compliance demonstration requirements discussed below include explicitly allowing compliance on a line-by-line basis, changing the averaging period for the emission rate limit from a monthly to a rolling 12-month average, revising the definition of the term $M_j$ to exclude water, and removing the 98 percent cap on destruction efficiency in calculating HAP emitted to demonstrate compliance with the emission rate limit.

We intended for the proposed rule to allow line-by-line compliance. This intent has been clarified in the final rule by adding an introductory paragraph to § 63.5170 of the final rule. The introductory paragraph states that you may apply any of the compliance options to an individual coil coating line, or to multiple lines as a group, or to the entire affected source. You may use different compliance options for different coil coating lines, or at different times on the same line, but you may not use different compliance options at the same time on the same coil coating line. Recordkeeping and reporting requirements also are specified if you switch between compliance options.

The compliance period specified for the emission rate limit in the proposed rule was 1 month. The compliance period specified in the final rule is 12 months, and compliance with the emission rate limit is demonstrated on

the basis of a rolling 12-month average. The 12-month compliance period is specified in § 63.5130 of the final rule and also is reflected in the specifications of the initial compliance period and subsequent compliance periods that have been added to this section. The initial compliance period begins on the compliance date and ends on the last day of the 12th month following the compliance date. If the compliance date is not the first day of the month, then the initial compliance period extends through that month plus the next 12 months. For subsequent compliance periods, each month after the end of the initial compliance period is the end of a compliance period consisting of that month and the preceding 11 months.

The term $M_j$ is the mass of solvent, thinner, reducer, diluent, or other nonsolids-containing coating material, j, applied in a month and is used in the mass balance to determine the recovery efficiency of a solvent recovery device. The proposed definition of $M_j$ included water as a nonsolids-containing coating material. The definition of the term $M_j$ in Equation 6 of § 63.5170 of the final rule has been revised to explicitly exclude water.

Finally, the proposed rule capped oxidizer destruction efficiency at 98 percent in calculating organic HAP emitted to demonstrate compliance with the emission rate limit unless performance was demonstrated with CEMS data. The final rule has been revised to allow the use of oxidizer destruction efficiencies greater than 98 percent demonstrated during performance testing, provided the oxidizer has continuously operated within the operating limits established during the performance test.

## IV. What Are the Responses to Major Comments?

This section summarizes the major public comments we received on the proposed rule and our responses to those comments. A more comprehensive summary of comments and responses can be found in Docket No. A–97–47.

### A. Impacts Analysis

Commenters identified flaws with EPA's impacts analysis and were concerned that inaccuracies in the impact analysis would affect bottom line figures for the costs impacts, secondary air impacts, and achievability of the standards. Two commenters asserted that EPA underestimated oven air flow rates for the model plant analysis due to failing to calculate air flows in standard cubic feet per minute (scfm) rather than actual cubic feet per minute (acfm), underestimating air flows by 1.5 to 2 times that used for model plant analysis for determining costs. They also claim that upgrading control devices to achieve the 98 percent OCE limit would generate additional air flow that has to be treated by the oxidizer due to installing new PTE with sufficient ventilation to comply with OSHA permissible exposure limits for the mix of solvents used. Failing to include the associated costs underestimates the initial capital investment and annual operating costs of an affected coating line.

Contrary to the commenter's assertion, the flow rates in acfm were derived from Information Collection Request (ICR) information and converted to scfm for the design of oxidizers; therefore, no error was made in this calculation. However, after further analysis comparing the calculated air flow rates to the reported air flow rates for all facilities that reported air flow rates in acfm, we found that model plant air flow rates should have been about 50 percent higher. Therefore, an adjustment factor was developed, resulting in a 50 percent increase in the model plant air flow rates. The adjusted oven air flow rates were used to revise compliance cost estimates. We also reviewed the additional capture measures reported by respondents to the metal coil coating ICR that use PTE. The ICR review revealed that a large majority of facilities reporting existing PTE did not report the use of additional ventilation; only 17 percent reported extra ventilation.

However, we agree that approximately 40 percent more flow is needed for a PTE if it cannot be designed with adequate local exhaust ventilation in the form of hoods and oven extensions to ensure worker safety. Therefore, we developed additional costs to reflect a 40 percent increase in flow for the 17 percent of facilities requiring extra ventilation.

One commenter stated that EPA's PTE costs are significantly underestimated based on a cost summary provided by the commenter for a PTE installed for a tandem coating line in a mezzanine arrangement. The cost summary included costs for reconfiguration of make-up air duct work, new exhaust duct work, a new plant make-up air heater, and explosion proof electrical systems. They assert that EPA estimates neglect these additional costs. Our data analysis revealed that PTE costs for a mezzanine arrangement represent the worst case situation for PTE application. Of the seven facilities in the facility database who use this configuration, four already have PTE and six comply with one of the compliance options. The seventh mezzanine PTE was under construction. Therefore, no additional costs for this design have been added. The PTE costs we derived represent typical installations; however, we agree with the commenter that electrical fittings used in the presence of flammable solvents should be explosion proof. To account for the additional cost of explosion-proof fittings, the estimated cost of auxiliaries has been increased from 50 to 80 percent of the PTE capital cost. These revised costs were used in revising the compliance cost estimates.

Two commenters believed that many of the assumptions EPA used to determine the cost of upgrading or replacing thermal oxidizers contributed to control system upgrade/replacement costs that are substantially less than what is truly needed. In addition to their comments about gas flow rate estimates for the model plant analysis, they claim the following assumptions should be revised or eliminated: (1) EPA has assumed that costs for duct work, dampers, fans, motors and stacks are not required for a replacement oxidizer, (2) a 20 percent discount is assumed for purchase of two oxidizers in the same order, (3) new oxidizers are assumed to operate with 70 percent heat recovery, which would likely preheat the inlet stream to above auto-ignition temperatures for the VOC involved, and (4) EPA assumed that existing units will be upgraded to achieve higher destruction efficiencies and accommodate increased flow. The commenter claimed that it is much more likely that a facility would choose to replace rather than upgrade a unit given the cost of modifications the commenter asserted to be necessary, including enlarging the combustion chamber, increasing the oxidizer blower capacity, increasing the size of the heat exchanger, and enlarging duct work to handle additional flow.

To address the comments on the costs of upgrading or replacing thermal oxidizers, for cases in which increased flow to the replacement oxidizer is not required, the assumption has been made that new ducting is not required. For cases in which air flow is increased, but a rotary concentrator is installed, the air flow to the oxidizer is not increased but new ducting is needed to route air to the rotary concentrator and from the concentrator to the oxidizer. New costs for the concentrator and associated equipment have been estimated for these cases and any others in which increased ventilation air is required.

Since index values for thermal oxidizers and catalytic oxidizers are

now greater than for most other control devices, discounts may not be available. New costs have been developed that have no discount for the purchase of two oxidizers in the same order.

We reviewed the heat recovery information in the facility database. In addition, we contacted two oxidizer vendors concerning the potential for auto-ignition of the inlet stream. Despite the high heat recovery efficiencies reported by some facilities in the database and the potential for designing recuperative oxidizers to avoid auto-ignition problems, we agree there is still the potential of auto-ignition problems for certain organic compounds used in the metal coil coating industry. Hence, we followed a conservative approach in reevaluating the assumptions used in costing replacement oxidizers. Replacement oxidizers are assumed to achieve a heat recovery of 60 percent versus the 50 percent heat recovery of baseline oxidizers. This number is based on our review of the database balanced by information provided by oxidizer vendors and is appropriate for impact analysis. In actuality, some sources may achieve higher heat recovery and some lower.

In determining whether an existing oxidizer would be upgraded or replaced, we assumed that the useful life of an oxidizer is 15 years based on available information. For sources with oxidizers near the end of their useful lives, we did not attribute the replacement cost to the NESHAP since the source would incur the cost in any case. To account for specific situations where oxidizers are not as old, we costed the addition of PTE which will result in increased flow requirements, and we costed the addition of concentrators. We believe these costing assumptions are reasonable and realistic.

Two commenters claimed that it is not cost effective to push the existing source OCE limit to 98 percent. The commenters stated that the incremental cost of increasing the OCE limit from their proposed 95 percent to 98 percent is approximately $35,000/ton HAP removed whereas the incremental cost of moving from the current baseline to 95 percent control is approximately $5,000/ton HAP removed based on an economic assessment done by one of the commenters.

The existing source OCE was not pushed to 98 percent, but rather was determined to be the MACT floor using data available to the Administrator. Consequently, the EPA's economic impact analysis was conducted only for the MACT floor level of 98 percent OCE. The appropriate cost effectiveness analysis considers the cost of reducing HAP emissions at the MACT floor level of control compared to the baseline level rather than the increment between 95 percent and 98 percent OCE which the commenters suggested. The MACT floor analysis results in a cost effectiveness of approximately $4,500/ton HAP removed.

One commenter noted that EPA's estimates of the nationwide incremental costs incurred by the coil coating industry to implement the rule were, at proposal, a nationwide total capital investment of $11.6 million and a total annual cost of $5.9 million. The commenter strongly disagreed with these cost estimates and cited data from an economic assessment done by their contractor which estimated the total annual incremental costs for the coil coating industry to be approximately $20.8 million. The commenter believes that EPA's estimate is incorrect because (1) EPA calculated the incremental costs by subtracting baseline costs from the upgrade or replacement cost which they believe assumes the replacement or upgrade would have been necessary for continued compliance with the VOC standards, even in the absence of the new coil NESHAP. (2) The EPA extrapolated nationwide costs by multiplying the model plant costs by the ratio of total HAP emissions reported by all facilities in the facility database divided by the emissions from all plants covered by the model plant analysis. This assumes that EPA has collected HAP emissions data on all existing coil coating lines in the country which is unlikely. (3) The EPA estimated monitoring, recordkeeping, and reporting costs by amortizing certain one time costs over a 15-year period, then adding the annual cost of compliance demonstrations, reports, and recordkeeping. Most permitting agencies would require performance testing, which EPA considered a one time cost, at a greater frequency than 15 years which would cause cost estimates to be understated.

Since we have revised our cost estimates due to corrections needed as described above, our estimated nationwide capital and annual costs have increased (see section V.D of this preamble). The nationwide cost estimates have been revised to incorporate the revised MACT floor costs associated with adding PTE, upgrading or replacing existing oxidizers and installing new condenser systems in some situations as described above. Even with these revisions, EPA's estimated costs are significantly lower than the commenters' costs. The revised nationwide total costs for all plants show an increase in capital costs to $18.1 million and an increase in annual costs to $7.6 million. Regarding the commenters' list of assumptions that should be modified, these assumptions were not changed for the following reason. No assumption concerning continued compliance with VOC standards was made. Estimating upgrade costs as the difference between the baseline and the MACT floor level of control is a technique for deriving incremental costs when detailed site specific data for all sources is not available. The EPA believes that most metal coil surface coating facilities in the country are in the database, therefore, any facilities omitted would lead to a small underestimation of nationwide costs. Finally, regarding the assumption that the control system performance test is a one time cost over the 15-year life of the oxidizer, the NESHAP only requires an initial performance test. Any subsequent testing would not be a result of the NESHAP requirements, but would be at the discretion of the permitting authority. Therefore, the cost of performance testing subsequent to the initial performance test was not attributed to the NESHAP.

One commenter questioned two of the assumptions used by EPA in determining how many facilities will have to make control system upgrades. The commenter submitted that EPA assumed that ten of the facilities would pursue synthetic minor permits and be exempt from the coil NESHAP; however, the commenter believed that there is no certainty in this assumption, as changes in market demand and/or product mix at a facility may require it to pursue a major source title V permit. The commenter also submitted that EPA estimated 26 facilities would be in compliance with the OCE or emission rate limit in the coil NESHAP; however, the commenter believed there are insufficient data to determine whether a facility will be able to comply with the monthly average requirements of the emission rate approach because the ICR data represent annual average emissions of HAP per solids applied, and the equivalent emission rate limit, as proposed, will be enforced on a monthly basis. One commenter noted that EPA's projected HAP emission reduction of 55 percent also appears to be based on the assumption that some facilities could comply with the monthly emission rate limit. The commenter's estimated reduction was based only on achieving 98 percent OCE and was estimated at 77 percent. The commenter believes that the Agency should not rely on speculation of the annual reductions

that will be achieved with the emission rate approach.

The ten facilities that the commenter describes as pursuing synthetic minor permits were facilities in the database reporting being already permitted as synthetic minors. No assumption was made that any facility not permitted as a synthetic minor source would do so to be exempt from the coil NESHAP. The commenter has a valid point that basing the assumption of whether a facility can comply with the emission rate limit during monthly compliance periods on annual emission rate data may be inappropriate. The compliance period for the emission rate limit has been revised to a rolling 12-month period to better reflect the data.

The projected HAP emission reduction (55 percent for the proposed rule; 53 percent for the final rule) is based on assuming that sources would choose the least costly means necessary to achieve either the facility 98 percent OCE or the equivalent emission rate compliance option. We believe it is reasonable to assume that some facilities will choose the emission rate limit as the least costly compliance option, particularly since it has been made less stringent than the proposed limit and since the compliance period has been changed from a monthly average to a rolling 12-month average. The revisions to the emission rate limit will result in a revised estimated HAP emission reduction of 53 percent.

*B. Rule Applicability*

Two commenters noted that EPA specifies that both the foil coating and the coil coating operations would be subject to the metal coil NESHAP at facilities that perform both foil and coil coating operations on the same equipment. Facilities coating only foil on their coating equipment would be subject to the Paper and Other Webs (POWC) NESHAP currently under development. The commenters suggested several ways to synchronize these two NESHAP including adopting 95 percent OCE as the MACT floor, revising the emission rate limit to reflect a representative coating with a HAP to solids ratio of 80/20, allowing sources to switch between the POWC rule currently under development and the metal coil rule through their title V permits, or specifying that the governing NESHAP be based on a threshold percentage of production time or of total surface area coated.

The metal coil rule as proposed specified that operations performing both foil coating and coil coating on the same equipment would be subject to the metal coil NESHAP only. The CAA directs EPA to develop standards that require the maximum degree of reduction in emissions of HAP that is achievable for each source category, which are commonly referred to as MACT standards. For existing major sources, MACT must be no less stringent than the average emission limitation achieved by the best preforming 12 percent of sources in the source category, which is referred to as the MACT floor. The 98 percent OCE was established using data submitted by coil coating facilities on their ICR. Data from facilities in the metal coil source category indicates that 98 percent is MACT for this source category. Selecting a 95 percent OCE is, therefore, not an option for the MACT floor.

To arrive at the emission rate limit, we used the average volume solids reported by each MACT floor facility. We used a conservative assumption (i.e., tendency to overestimate HAP) that the entire volatile fraction of the coating was HAP to determine the HAP to solids ratio for a representative coating for the metal coil industry. For proposal, this ratio was 60/40. For the final rule, we revised this ratio, using the average of the coatings with the lowest solids content reported by each facility in the MACT floor. This type of coating represents the most adverse circumstance that could reasonably be expected to occur at a floor facility. The resulting HAP to solids ratio is now 70/30. We believe this higher ratio accounts for the range in coatings used by floor facilities and reflects a HAP/solids mix of coatings that is representative for the metal coil coating industry. The resulting emission rate limit is 0.38lb of HAP/gal of solids. The HAP/solids ratio used to establish the proposed emission rate limit for the POWC rule and the final printing and publishing rule were based on information on coating characteristics for each respective source category and is not, according to our data, representative of coatings on average in the metal coil source category.

The commenters proposed that we allow a cutoff limit based on threshold percentage of activity for each source category which would determine the rule with which a facility would comply. Additional data analysis was done to determine the degree to which overlap occurs. Our data analysis revealed there are six facilities in the metal coil MACT database reporting coating application on substrates of thicknesses less than 0.006 inches, which would be considered foil. One facility reported the percentage of foil coating as confidential business information (CBI). Four facilities reported less than 25 percent foil coating, making coil coating the principal surface coating activity for their coating lines. However, one facility reported at least 85 percent of the substrate being coated as foil, making foil coating the principal surface coating activity for their coating lines. We believe that coating lines for which 85 per cent of the substrate coated is foil would be more appropriately covered by the POWC NESHAP. Therefore, using the available data, we have established a special provision for this particular circumstance. If 85 percent or more of the substrate coated on a line, based on surface area, is of a thickness of less than 0.006 inches, then that line will be covered under the POWC NESHAP currently under development and is not subject to the metal coil surface coating NESHAP. We do not anticipate that establishing this primary use provision at 85 per cent will result in a significant negative environmental impact. We expect the provision to apply to a limited number of coating lines (less than ten), and the incremental difference in emission reduction achieved at those lines will be no more than three per cent (i.e., the difference between the 98 per cent OCE achieved by the metal coil rule versus the 95 per cent OCE achieved by the POWC rule). We estimate this difference to be approximately 75 tpy.

Facilities that may have coil and foil coated on the same line, regardless of the percentage of surface area, may opt to subject that line to the metal coil surface coating NESHAP. In addition, facilities that have metal coil and foil coated on separate lines at a facility may opt to include all lines under the metal coil NESHAP if the lines are controlled by a common control device. If for any year a line utilizing this cutoff limit and complying with the POWC NESHAP coats more than 15 percent coil substrate based on surface area, that line will from that point forward be subject to the metal coil NESHAP, and will no longer be able to utilize the cutoff limit option. The applicability section of the final rule has been revised accordingly.

The commenters suggested that sources be allowed to switch between rules through their title V permits when their coating substrate changes. To do this, sources would have to keep records of substrate and coating use separately for the POWC and metal coil rules, as well as calculations for compliance demonstrations and reports for each rule. The 85 per cent primary use provision allows facilities to comply with the NESHAP representing their principal coating activity.

One commenter submitted that product and packaging companies applying coatings onto continuous metal substrates greater than 0.006 inch thick for flexible packaging should be exempt from the coil coating MACT rule. The commenter noted that the facility and its process equipment is either already subject to the printing and publishing NESHAP or will be subject to the POWC NESHAP.

We agree that the coating of metal substrates for the purpose of flexible packaging is an operation that is covered under the proposed POWC NESHAP. The final rule has been revised to clarify that the metal coil NESHAP does not apply to substrates coated for flexible packaging.

One commenter noted that the proposed applicability section 40 CFR 63.5090 provides that ''The provisions of this subpart apply to each facility that is a major source of HAP, as defined in § 63.2, at which a *coil coating line is operated*'' (underlined emphasis added). The commenter submitted that the phrase ''coil coating line is operated'' is not defined and ''coil coating line'' includes any coating operation, including those operations EPA seeks to exclude in the definition of ''coating'' in 40 CFR 63.5110. The commenter requested clarification of the proposed applicability section to clearly identify regulated facilities using the terms defined at proposed 40 CFR 63.5110.

We agree with the commenter that the proposed applicability language was not clear. The definition of coil coating line in section 63.5110 has been revised as follows: ''coil coating line means a process and the collection of equipment used to apply an organic coating to the surface of a metal coil.'' The definition of coil coating operation has been removed from that section. This revision addresses the commenter's concern.

Two commenters requested that EPA specifically state in the preamble that all of the equipment included as part of ancillary operations has been evaluated under the metal coil NESHAP and, thus, is exempt from the proposed Miscellaneous Organic NESHAP (MON) (67 FR 16154, April 4, 2002).

The NESHAP to which the commenters refer would regulate coating manufacturing operations and would require controls on the following emission sources: storage tanks, process (mixing) vessels, equipment components, wastewater treatment and conveyance systems, transfer operations, and ancillary sources such as heat exchange systems. As the commenter stated, we evaluated all of the equipment included as part of ancillary operations as we developed the proposed rule. We requested control and emissions information on these operations as part of our information collection request. However, the information we received was not sufficiently detailed to give a clear picture of the level of control achieved for these operations. For example, mixing can occur at the coating application station inside a PTE, or it can occur at a location away from the application station without an enclosure. If a facility reported achieving 98 per cent control of mixing tanks, it was not clear if all mixing was controlled at this level or only a portion of the mixing. Due to the lack of detailed information available, we were not able to determine a MACT floor for such equipment. Consequently, equipment that is part of ancillary operations is not included in the affected source for these standards.

The proposed MON is not intended to apply to the end users of manufactured coatings. As proposed, it will apply only to sources that manufacture coatings described by SIC codes 285 or 289 or NAICS code 3255. Metal coil coating facilities are not typically in these SIC and NAICS codes and, therefore, would not be subject to the MON, as proposed. If a facility does meet the proposed definition of a coating manufacturer in the MON, its ancillary operations would most likely not meet the criteria used to determine whether controls are required (*e.g.,* the capacity of mixing vessels and storage tanks, or the concentration of total organic HAP in wastewater). The MON preamble specifically requests comment on the costs of controlling emissions and appropriate size cutoffs for coating manufacturers who produce coatings for their own use. Facilities that are potentially affected by the proposed MON or concerned about how it may apply to coating users may view comments received on the MON proposal by accessing Docket Number A–96–04.

*C. Definitions*

Several commenters submitted that the definition of ''deviation'' in the proposed rule is very broad or overly complicated and requested that the definition be deleted. The commenters are concerned that all deviations may be considered violations of the standards. Two commenters requested that in place of the term ''deviation,'' we include a definition for ''excursion'' or ''monitoring excursion.''

We are using the term ''deviation'' to standardize the regulatory language used in NESHAP and to avoid any confusion that might be caused by using multiple, related terms such as excess emission, exceedence, excursion, and deviation in the same regulatory program. In the final rule, the definition of deviation clarifies that any failure to meet an emission limitation (including an operating limit or work practice standard) is a deviation, regardless of whether such a failure is specifically excused or occurs at times when the emission limitations do not apply, for example, during startup, shutdown, or malfunction. The enforcement authority determines violations. The definition of deviation is consistent with the use of the term deviation in the title V operating permit program.

*D. MACT Floor Determination*

One commenter asserted that the approach followed by EPA in setting the OCE MACT floor was flawed and proposed an alternative approach to setting the MACT floor. The commenter points out that the CAA gives EPA no direction on how to determine which sources are ''best performing,'' accordingly, EPA has maximum flexibility in making that determination. In the commenter's approach, the plants in their database operating with add-on controls were sorted from the lowest to the highest post-control HAP emissions in terms of lbs of HAP per lbs of solids applied. The OCE was calculated for each facility, and the arithmetic mean of the best performing 12 percent of the data set was calculated at 93.6 percent. The commenter asserts that this approach to setting the MACT floor is more appropriate than EPA's method because it better defines the ''best performing sources,'' basing performance on the amount of HAP emitted per solids applied rather than just focusing on OCE. The commenter claims that this approach also generates a more diverse group of coating lines in the MACT floor facilities than EPA's method. The commenter submitted that EPA followed a flexible approach in setting MACT floors for other NESHAP because of the diversity of industry sectors and types and formulation of coatings used, diversity that is also found in the coil coating industry.

We agree that we have flexibility in determining what constitutes the best-performing 12 percent of sources; however, using the methodology proposed by the commenter erroneously accepts that low post-controlled emissions is the result of OCE alone. Post-controlled emissions most often reflect a combination of low-HAP coating formulation and OCE. Given the nature of the metal coil surface coating process and the prevalence of add-on controls in the industry, we determined that ranking facilities by the highest

level of control their control devices achieve is the correct method of establishing the best performers. This methodology generated a universe of floor facilities that represents the diversity of facilities in the industry. The floor facilities coat the range of product types found in the metal coil coating source category.

Several commenters asserted that the proposed OCE of 98 percent is too stringent for existing sources. The commenters supported an OCE of 95 percent for existing sources and 98 percent for new sources. The commenters submitted that thermal oxidation (the overwhelming choice for VOC/HAP control in the coil coating industry) is limited to achieving 98 percent destruction efficiency for new, properly designed units and that existing thermal and catalytic oxidizers cannot achieve 98 percent destruction efficiency on a long-term, continuous basis.

The EPA used data submitted by coil coating facilities on their ICR as the primary basis for establishing a 98 percent OCE. Reported values show that these control systems are capable of achieving greater than 99 percent HAP destruction, based on 100 percent capture and greater than 99 percent destruction efficiencies. The average reported OCE of the MACT floor facilities is 99.4 percent. To determine the level of emission control that is consistently achievable with this technology, we also considered the level of control that the EPA has generally found to be achievable. In addition to general EPA guidance, available literature was reviewed and state agencies and vendors of control equipment were contacted (docket No. A–97–47) for further information indicating the appropriate control efficiency for thermal oxidizers. All of these sources indicate that thermal oxidizers routinely achieve destruction efficiencies of at least 98 percent.

With respect to the performance of catalytic oxidizers, for inlet concentrations greater than 100 ppm, catalytic oxidizers can achieve 95 to 98 percent destruction (docket No. A–97–47). Though 95 percent destruction is typical, 98 percent can be achieved through the use of larger catalyst volumes and/or higher temperatures.

*E. Achievability of the Standards*

Several commenters submitted that the emission rate limit should be less restrictive. One commenter presented an alternative emission rate proposal based on upper-bound HAP formulation. Under the commenter's proposal, the average minimum solids content for the eleven floor facilities is 29.1 percent solids by volume. Therefore, the commenters request that EPA use a representative coating of 30 percent solids and 70 percent HAP to derive the equivalent emission rate compliance option instead of the 40 percent solids and 60 percent HAP ratio used for the proposed standard. The representative coating would then yield a precontrol emission rate of 18.5 lbs HAP/gal solids applied, which then generates an equivalent emission rate of 0.37 lb HAP/gal solids applied when factored by the 98 percent OCE. The commenters also requested that the compliance averaging period be a 12-month rolling average. This would account for the use of annual average data in the derivation of the equivalent emission rate and the significant variability in the types of coatings toll coaters typically apply over a 1-year period.

We agree with the commenter that in this case, the emission rate limit should be a rolling 12-month emission rate because the data on which the limit was set reflect annual averages and some segments of the coil coating industry may experience significant variation from month to month in types of coatings used and their HAP contents. This revision has been incorporated into § 63.5170 of the final rule. In addition, we agree that the alternative emission rate limit and compliant coating option should be revised to reflect the average of the lowest solids/highest HAP applied by the MACT floor facilities in the database. The revised emission rate limit and compliant coating option is 0.38 lb of HAP per gallon of solids applied during each 12-month compliance period.

Several commenters submitted that EPA has proposed a single set of emission standards to regulate the entire coil coating industry, thereby failing to account for the significant diversity in various segments of the industry. One commenter requested that EPA subcategorize or, at a minimum, set different emission limits for different types of coil coating operations based on coating use (water-borne or solvent-borne), end use industrial sector or the type of coating business (toll coating versus captive coating). Two of the commenters note that EPA specifically requested comment on the appropriateness of requiring the proposed emission limits for electrodeposition coating (e-coat) lines using water-borne coatings that comply with NSPS and reasonably available control technology (RACT) VOC limits. One commenter added that the MACT floor facilities on which the emission limits are based are comprised of a disproportionate number of coating lines that produce stock for architectural and building products, a segment of the coil coating industry characterized by application of solvent-borne coatings with significant HAP content and use of enhanced VOC control systems.

We agree with the commenters that there is some diversity in the industry and designed the standard with sufficient flexibility to accommodate that diversity. It was based on emission control levels achieved by the MACT floor facilities which included most segments of the industry. The emission standard is in two different formats and allows four options for demonstrating compliance, providing significant compliance flexibility for the various segments of the industry. The various options for demonstrating compliance with the emission rate limit provide viable alternatives for facilities using water-borne coatings, electrodeposition coating lines, or solvent borne coatings with relatively higher solids and lower HAP contents than facilities that choose to comply with the 98 percent OCE. To account for the variability in coatings used from month to month and to allow for the most adverse conditions that could be expected, we revised the emission rate limit and compliant coating option to reflect the lowest levels of solids used at facilities over a year. In addition to this, the final rule provides a rolling 12-month compliance period over which emission rates are determined rather than a block month compliance period. These allowances and adjustments to the final rule provide greater flexibility for compliance than subcategorization or dividing facilities into sectors and setting a separate limit for each sector.

One commenter submitted that due to differences in operations and coating type, water-based deck lines with in-line tandem coating and roll forming operations must be considered separately from and treated differently than traditional coil coating lines using solvent-based coatings and requested that a water-based compliant emission rate alternative of 0.518 lb of HAP/gal of solids applied (i.e., 0.062 kg/l) be established because it is the lowest water-based HAP emission rate commercially demonstrated for all colors and all seasons of the year.

A compliant coating option in the form of an emission rate was included in the proposed rule and has been revised to be less stringent in the final rule. The final emission rate is 0.38 lb organic HAP per gallon of coating solids applied, averaged over a 12-month period. This compliance option was included as a pollution prevention

alternative for facilities using coatings that contain lower levels of HAP so that the application of controls like those needed for higher-HAP coating operations would not be necessary. Of the six facilities in the MACT database operating water-based deck lines, at least two of the facilities should be able to comply using this option without reformulating coatings or applying any controls. Data submitted by the remaining four deck facilities indicate that they will need neither oxidizers nor PTE to achieve the emission rate limit. They would be able to achieve the needed emission reductions using other options such as reformulation or solvent recovery. The commenter suggested an emission rate limit of 0.518 lb HAP per gallon of coating solids applied because purportedly, it is the lowest rate that can be achieved for all colors and for all seasons. We believe the final emission rate of 0.38 lb/gallon is achievable, in part, because the standard allows averaging of all coatings across a 12-month period. Thus, a source would be able to offset usage of higher-HAP coatings, such as the one the commenter describes, with usage of lower-HAP coatings at other times in order to average below the emission rate limit over 12 months. Therefore, given the compliance alternatives, EPA believes that the final rule provides sufficient flexibility for sources such as these to comply.

*F. Monitoring*

Three commenters submitted that it is inappropriate to use the catalyst bed outlet temperature as a continuous compliance operating parameter because the temperature rise across the bed is a function of the total VOC loading to the oxidizer. One of the commenters noted that the preamble discussion of monitoring requirements for catalytic incinerators (65 FR 44619) stated that the facility must establish operating parameters as the minimum gas temperatures both upstream and downstream of the catalyst bed; the appropriate section of the proposed Coil NESHAP (§ 63.5160(d)(3)) stated that the operating parameter for a catalytic oxidizer is limited to the minimum gas temperature at the inlet to the catalyst bed.

Our intent was to include in § 63.5160(d)(3) of the proposed rule that both the outlet temperature and the inlet temperature be used as the operating parameters for catalytic oxidizers, in order to calculate the temperature change across the catalyst bed. This temperature change is indicative of catalyst activity. The final rule has been corrected to agree with the proposal preamble discussion and to clarify the original intent. Also, an alternative to this monitoring has been added to the rule. In lieu of monitoring the inlet and outlet gas temperatures to calculate temperature change across the catalyst bed, facilities may meet a minimum gas temperature at the inlet to the catalyst bed established during the performance test and develop and implement an inspection and maintenance plan for the catalytic oxidizer.

One commenter noted that there are no specifications for monitoring system accuracy, calibration frequency, etc. in § 63.5150(a)(4) of the rule for capture systems. The commenter submitted that the standard should spell out what monitoring should be done, how to set the operating parameters (including appropriate averaging time) and specify reporting for various capture system options as it does for control equipment options.

At the time of proposal of this NESHAP, we had not developed criteria for the monitoring of capture systems and proposed some minimum criteria for facilities to follow to develop monitoring plans for their site-specific conditions. After proposal of this NESHAP, we developed criteria to be used for setting operating parameter limits for monitoring capture systems. These criteria will be included in implementation materials we are developing for the final metal coil surface coating rule as an example that facilities may follow in developing their monitoring plans.

*G. Administrative Requirements*

One commenter asserted that EPA's conclusion that the coil coating MACT proposal was not a significant regulatory action subject to Office of Management and Budget (OMB) review under Executive Order 12866 is wrong because it is in direct conflict with express CAA provisions requiring the reduction of ozone precursors such as $NO_X$ and with the avowed policies of the Clinton-Gore Administration to reduce greenhouse gas emissions. The commenter asserts, in the terms set forth in the Executive Order, EPA's 98 percent OCE standard creates a ''serious inconsistency or otherwise interferes'' with actions taken or planned by EPA, by other agencies, and by the President to reduce ozone concentrations across the country and to reduce greenhouse gas emissions. Additionally, the commenter alleges the 98 percent OCE, at a minimum, raises ''novel legal or policy issues'' regarding whether EPA has made the correct choice between HAP emissions and $NO_X$ and carbon dioxide emissions. The commenter estimates that establishing a 98 percent OCE limit instead of their proposed 95 percent OCE will cause approximately 230 tpy additional $NO_X$ and 279,000 tpy additional carbon dioxide per year to reduce HAP emissions by an incremental 590 tpy. Accordingly, the commenter asserts that EPA must submit the coil coating MACT standard to OMB review under the terms of the Executive Order.

We do not agree that the coil coating NESHAP is a significant regulatory action subject to OMB review under Executive Order 12866. It does not meet any of the criteria for such a classification, including the ''novel legal or policy issues'' criterion. The EPA's estimates for $NO_X$ and $CO_2$ emissions increases resulting from the standard are significantly lower than the commenter's estimates. We estimate these increases to be about 3 percent above baseline emissions, while HAP emissions reductions of 53 percent will be achieved by this standard. Therefore, the final metal coil NESHAP was not submitted to OMB for review.

The commenter believes that EPA also incorrectly determined that the coil coating standard would not significantly impact a substantial number of small entities. The Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), requires Federal regulatory agencies to determine whether a proposed or final regulation will have a significant impact on a substantial number of small entities. According to ''EPA Interim Guidance for Implementing the Small Business Regulatory Enforcement Fairness Act and Related Provisions of the Regulatory Flexibility Act'' (EPA, 1997f), current Agency policy is to implement the RFA as written; that is, ''regulatory flexibility analyses as specified by the RFA will not be required if the Agency certifies that the rule will not have significant economic impact on a substantial number of small entities.'' However, it remains Agency policy that, even when the Agency makes a certification of ''no significant impact,'' program offices should assess the impact of every rule on small entities and minimize any impact to the extent feasible, regardless of the size of the impact or the number of small entities affected.

In accordance with SBREFA and Agency guidance, a screening analysis was conducted for the MACT floor and its projected costs to determine if the rule imposed a significant impact on a substantial number of small entities. The Agency also calculated the share of annual compliance cost relative to baseline sales for each company. This approach is consistent with

recommended criteria from EPA's Guidance on Implementing SBREFA and RFA for evaluating the economic impact of a rule on small entities. These results do not support a claim of significant impact on a substantial number of small businesses.

## V. What Are the Environmental, Energy, Cost, and Economic Impacts?

As explained below, we do not expect any significant adverse environmental or energy impacts resulting from the final rule. Any negative economic impacts are also expected to be small. Actual compliance costs will depend on each source's existing equipment and the modifications made to comply with the standard. We have estimated that the installation of PTE and the installation of, or improvement to, thermal oxidizers at existing facilities could require nationwide capital costs of approximately $18.1 million and annual costs of about $7.6 million. Costs could be much lower if facilities choose to use low-HAP coatings.

### *A. What Are the HAP Emissions Reductions?*

For existing sources in the metal coil coating industry, the nationwide baseline HAP emissions are estimated to be 2,258 Mg/yr (2,484 tpy). We estimate that implementation of the final rule will reduce emissions from these sources by 1,198 Mg/yr (1,318 tpy), or approximately 53 percent.

Since the emission limits for new and existing sources are the same, emission reductions for new sources are expected to be similar to the 53 percent emission reduction estimated for existing sources.

### *B. What Are the Secondary Environmental Impacts*

Secondary environmental impacts are considered to be any air, water, or solid waste impacts, positive or negative, associated with the implementation of the final standards. These impacts are exclusive of the direct organic HAP air emission reductions discussed in the previous section.

Most of the organic HAP are VOC. Capture and control of HAP that are presently emitted will result in a decrease in VOC emissions. In addition, the emission control systems used to reduce HAP emissions will reduce non-HAP VOC emissions as well. We do not have information on non-HAP VOC emissions from metal coil coating operations; consequently, we cannot quantify the reduction of VOC emissions. However, the percent reduction should be similar to the percent reduction in HAP emissions (i.e., about 53 percent). Emissions of VOC have been associated with a variety of health and welfare impacts. The VOC emissions, together with nitrogen oxides, are precursors to the formation of ground level ozone, or smog. Exposure to ambient ozone is responsible for a series of public health impacts such as alterations in lung capacity and aggravation of existing respiratory disease. Ozone exposure can also damage forests and crops.

The use of newly installed or upgraded control devices will result in greater electricity consumption. Increases in emissions of nitrogen oxides, sulfur dioxide, carbon monoxide, and carbon dioxide, as well as certain HAP, from electric utilities could result. In the metal coil coating industry, some plants will comply by installing or upgrading oxidizers. Supplemental fuel, typically natural gas, will be used, particularly for thermal oxidizers. Combustion of this fuel will result in additional carbon dioxide emissions and may result in additional emissions of nitrogen oxides and carbon monoxide. We estimate that if increases in these emissions occur, they will be small (about three percent above baseline).

A small number of facilities using waterborne coatings may install condenser systems to comply with the standard. This would result in the generation of wastewater streams that may require treatment to remove the HAP. It also is expected that some metal coil coating facilities will comply with the proposed standard by substituting non-HAP materials for HAP presently in use. In some cases, the non-HAP materials may be VOC, however, in other cases, non-VOC (e.g., water) materials may be used. Facilities converting to waterborne materials as a means or partial means of compliance may have reduced Resource Conservation and Recovery Act hazardous waste disposal if the status of the waste material changes from hazardous to nonhazardous. An increase in wastewater discharge may occur if waste material and waterborne wash-up materials are discharged to publicly owned treatment works.

New and upgraded catalytic oxidizers will require catalysts. Catalyst life is estimated to be more than 10 years. Spent catalysts will represent a small amount of solid waste, and sometimes the spent catalyst will be regenerated by the manufacturer for reuse. Activated carbon used in solvent recovery systems is returned to the manufacturer at the end of its useful life and converted to other salable products. Little solid waste impact is expected from this source.

### *C. What Are the Energy Impacts?*

The operation of new and upgraded control devices will require additional energy. Capture of previously uncontrolled solvent-laden air will require fan horsepower. Operation of oxidizers, particularly thermal oxidizers, may require supplemental fuel (typically natural gas).

The total additional electrical energy required to meet the standard is estimated to be 2.3 million kilowatt-hours per year. Nationwide incremental natural gas usage is expected to increase by approximately 170 million standard cubic feet per year.

### *D. What Are the Cost Impacts?*

The total nationwide capital and annualized costs (1997 dollars) attributable to compliance with the final standards have been estimated for existing sources. These costs are based on model plant analysis of the least-cost measure using HAP emission controls needed for facilities to attain one of the compliance options. For existing facilities, with the exception of facilities applying waterborne coatings that do not meet the emission rate limit, the compliance costs represent the incremental costs associated with upgrading existing HAP emission controls.

*Compliance Costs for New Sources.* Since the HAP emission limits for existing and new sources are the same, the incremental costs required to replace existing HAP emission controls are an indication of the incremental costs (above baseline level controls) that will be incurred by new sources to install and operate the level of HAP emission controls required to achieve the emission limits. For example, for a small coating line with one application station enclosed by a PTE and a thermal oxidizer to control HAP emissions, the incremental capital costs are estimated to be about $184,000, and the annual costs including monitoring, recordkeeping, and reporting costs approximately $73,000. Similarly, for a large coating line with two application stations enclosed by PTE and two thermal oxidizers, the incremental capital costs are estimated to be about $392,000 and the annual costs around $174,000, including monitoring, recordkeeping, and reporting costs. A coating line applying waterborne coatings is estimated to incur capital costs of around $1,008,000 and annual costs of approximately $371,000, including monitoring, recordkeeping, and reporting to install and operate a condenser system to control HAP emissions.

The incremental costs incurred for coating lines controlled by thermal incinerators include retrofit factors, and, thus, for new sources the incremental costs are probably overstated. Nonetheless, the estimated costs should not deter the construction of new metal coil coating lines or the entry of new companies into the industry.

*Capital Costs for Existing Sources.* Capital costs will be incurred by installing capture and control systems at those facilities presently without controls and upgrading capture and control systems at existing facilities that do not meet the final standard. Additionally, the purchase of monitoring equipment may be needed as a capital investment to meet the monitoring, recordkeeping, and reporting requirements of the NESHAP. Total nationwide capital costs are estimated at $18.1 million, based on the use of PTE, thermal oxidizers, solvent recovery systems, and monitoring equipment. The total nationwide capital costs with other methods of control are expected to be lower.

*Annual Costs at Existing Sources.* Total nationwide annual costs of the final standard have been estimated at approximately $7.6 million per year with the use of PTE and new or upgraded thermal oxidizers or solvent recovery systems. These costs include capital recovery over a 15-year period, operating costs for the newly installed and upgraded capture and control systems, and costs for monitoring, recordkeeping, and reporting. These are net costs after taking into account the costs presently being incurred for the baseline control level. The total nationwide annual costs with methods of control other than thermal oxidizers are expected to be lower.

### *E. What Are the Economic Impacts*

The Economic Impact Analysis (EIA) (included in the background information document (BID), EPA 453/P–00–001) shows that the expected price increase for coated metal coils would be approximately 0.2 percent as a result of the proposed standards. Therefore, no adverse impact is expected to occur for those industries that consume coated metal coils such as building and construction, appliances, automotive parts, and other consumer products.

The distribution of costs across metal coil coating facilities is slanted toward the lower impact levels with many facilities incurring no costs or only those related to initial performance testing and annually recurring monitoring, recordkeeping, and reporting. The EIA indicates that these regulatory costs are expected to represent less than 1 percent of the value of coating services, which should not cause producers to cease or alter their current operations. Hence, no firms or facilities are at risk of closure because of the proposed standards. For more information, consult the docket for this project.

## IV. What Are the Administrative Requirements?

### *A. Executive Order 12866, Regulatory Planning and Review*

Under Executive Order 12866 (58 FR 51735, October 4, 1993), we must determine whether the regulatory action is ''significant'' and therefore subject to review by OMB and the requirements of the Executive Order. The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is not a ''significant regulatory action'' because none of the listed criteria apply to this action. Consequently, this action was not submitted to OMB for review under Executive Order 12866.

### *B. Executive Order 13132, Federalism*

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.'' Under section 6 of Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. The EPA also may not issue a regulation that has federalism implications and that preempts State law, unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

This rule will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. Thus, the requirements of section 6 of the Executive Order do not apply to this rule. Although section 6 of Executive Order 13132 does not apply to this rule, the EPA did consult with State and local officials to enable them to provide timely input in the development of this rule.

### *C. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments*

Executive Order 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' The final rule does not have tribal implications, as specified in Executive Order 13175. No tribal governments own or operate metal coil coating operations. Thus, Executive Order 13175 does not apply to this final rule.

### *D. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks*

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety effects of the planned rule on children, and

explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. Today's rule is not subject to Executive Order 13045 because it is based on technology performance and not on health or safety risks and because it is not ''economically significant.''

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

This rule is not subject to Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

*F. Unfunded Mandates Reform Act of 1995*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures by State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least-burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least-costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that this rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. The rule does not impose any enforceable duties on State, local, or tribal governments, i.e., they own or operate no sources subject to this rule and, therefore, are not required to purchase control systems to meet the requirements of this rule. Regarding the private sector, EPA believes the rule will affect approximately 90 existing facilities nationwide. The EPA projects that annual economic effects will be $7.6 million. Thus, today's rule is not subject to the requirements of sections 202 and 205 of the UMRA. Nevertheless, in developing this rule, EPA consulted with States to enable them to provide meaningful and timely input in the development of this rule.

In addition, the EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments or impose obligations upon them. Therefore, today's rule is not subject to the requirements of section 203 of the UMRA.

*G. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601, et seq.*

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

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) a small business according to Small Business Administration (SBA) size standards by NAICS code of the owning entity (in this case, ranging from 100–1,000 employees; see table below); (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

In accordance with the RFA and SBREFA, EPA conducted an assessment of the standard on small businesses within the metal coil coating industry. Based on SBA size definitions and reported sales and employment data, EPA identified 19 of the 49 companies owning metal coil coating facilities as small businesses. Although small businesses represent almost 39 percent of the companies within the source category, they are expected to incur only 8.5 percent of the total industry compliance costs of approximately $6.0 million. The average annual compliance cost share of sales for small businesses is less than 0.2 percent with 7 of the 19 small businesses not expected to incur any additional costs because they are permitted as synthetic minor HAP emission sources. After considering the economic impacts of today's rule on small entities, we determined that this action will not have a significant economic impact on a substantial number of small entities.

Although this rule will not have a significant economic impact on a substantial number of small entities, we nonetheless tried to limit its impact on small entities. For example, the requirements of the rule only apply to major sources as defined in 40 CFR part 63 and a title V or part 70 permit application can be used in lieu of an initial notification under certain conditions. Also, during the background information development phase of the rulemaking, numerous stakeholder meetings were held at which input was solicited from small entities.

*H. Paperwork Reduction Act*

The information collection requirements in this rule will be submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501, *et seq.* An ICR document has been prepared by EPA (ICR No. 1957.01) and a copy may be obtained from Sandy Farmer by mail at the Collection Strategies Division (2822), U.S. EPA, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, by email at *farmer.sandy@epa.gov,* or by calling (202) 260–2740. A copy may also be downloaded off the internet at *http://www.epa.gov/icr.* The information requirements are not effective until OMB approves them.

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

The public burden of monitoring, recordkeeping, and reporting for this collection is estimated to average 281 hours per year per coil coating facility for each year after the date of promulgation of the rule including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Monitoring, recordkeeping, and reporting costs also include the startup costs associated with initial performance tests and associated notifications and reports required to demonstrate initial compliance; emission rate limit monthly compliance determinations; semiannual reports when someone does not follow a plan for startups, shutdowns, and malfunctions; quarterly and semiannual reports on excess emissions; maintenance inspections; notices; and recordkeeping. The total annualized costs associated with monitoring, recordkeeping, and reporting have been estimated at $784,179 which include the estimated annualized capital costs of $232,076.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on the EPA's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the Director, Collection Strategies Division (2822), U.S. EPA, 1200 Pennsylvania Ave., NW, Washington, DC 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503 marked ''Attention: Desk Officer for EPA.'' Include the ICR number in any correspondence. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after June 10, 2002, a comment to OMB is best assured of having its full effect if OMB receives it by June 10, 2002.

*I. National Technology Transfer and Advancement Act of 1995*

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA) (Public Law No. 104–113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs EPA to provide Congress, through annual reports to OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.

This rulemaking involves technical standards. The EPA cites the following standards in this rule: EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 24, 25, 25A, 204, 204A–F, and 311. Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these EPA methods. No applicable voluntary consensus standards were identified for EPA Methods 1A, 2A, 2D, 2F, 2G, 204, 204A through 204F, and 311. The search and review results have been documented and are placed in the docket (docket No. A–97–47) for this rule.

The three voluntary consensus standards described below were identified as acceptable alternatives to EPA test methods for the purposes of this rule.

The voluntary consensus standard ASME PTC 19–10–1981–Part 10, ''Flue and Exhaust Gas Analyses,'' is cited in this rule for its manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas. This part of ASME PTC 19–10–1981–Part 10 is an acceptable alternative to Method 3B.

The two voluntary consensus standards, ASTM D2697–86 (Reapproved 1998) ''Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings'' and ASTM D6093–97 ''Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer,'' are cited in this rule as acceptable alternatives to EPA Method 24 to determine the volume solids content of coatings. Currently, EPA Method 24 does not have a procedure for determining the volume of solids in coatings. These standards augment the procedures in Method 24, which currently states that volume solids content be calculated from the coating manufacturer's formulation.

Six voluntary consensus standards: ASTM D1475–90, ASTM D2369–95, ASTM D3792–91, ASTM D4017–96a, ASTM D4457–85 (Reapproved 91), and ASTM D5403–93 are already incorporated by reference in EPA Method 24. Five voluntary consensus standards: ASTM D1979–91, ASTM D3432–89, ASTM D4747–87, ASTM D4827–93, and ASTM PS9–94 are incorporated by reference in EPA Method 311.

In addition to the voluntary consensus standards EPA proposes to use in this rule, the search for emissions measurement procedures identified 11 other voluntary consensus standards. The EPA determined that nine of these 11 standards identified for measuring emissions of the HAP or surrogates subject to emission standards in this rule were impractical alternatives to EPA test methods for the purposes of this rule. Therefore, EPA does not intend to adopt these standards for this purpose. The reasons for this determination for the nine methods are discussed below.

The voluntary consensus standard ASTM D3154–00, ''Standard Method for Average Velocity in a Duct (Pitot Tube Method),'' is impractical as an alternative to EPA Methods 1, 2, 2C, 3, 3B, and 4 for the purposes of this rulemaking since the standard appears to lack in quality control and quality assurance requirements. Specifically, ASTM D3154–00 does not include the

following: (1) Proof that openings of standard pitot tube have not been plugged during the test; (2) if differential pressure gauges other than inclined manometers (*e.g.,* magnehelic gauges) are used, their calibration must be checked after each test series; and (3) the frequency and validity range for calibration of the temperature sensors.

The voluntary consensus standard ASTM D3464–96 (2001), ''Standard Test Method Average Velocity in a Duct Using a Thermal Anemometer,'' is impractical as an alternative to EPA Method 2 for the purposes of this rulemaking primarily because applicability specifications are not clearly defined, e.g., range of gas composition, temperature limits. Also, the lack of supporting quality assurance data for the calibration procedures and specifications, and certain variability issues that are not adequately addressed by the standard limit EPA's ability to make a definitive comparison of the method in these areas.

The voluntary consensus standard ISO 10780:1994, ''Stationary Source Emissions-Measurement of Velocity and Volume Flowrate of Gas Streams in Ducts,'' is impractical as an alternative to EPA Method 2 in this rulemaking. The standard recommends the use of an L-shaped pitot, which historically has not been recommended by EPA. The EPA specifies the S-type design which has large openings that are less likely to plug up with dust.

Two voluntary consensus standards, EN 12619:1999 ''Stationary Source Emissions-Determination of the Mass Concentration of Total Gaseous Organic Carbon at Low Concentrations in Flue Gases—Continuous Flame Ionization Detector Method'' and ISO 14965: 2000(E) ''Air Quality-Determination of Total Nonmethane Organic Compounds-Cryogenic Preconcentration and Direct Flame Ionization Method,'' are impractical alternatives to EPA Method 25 and 25A for the purposes of this rulemaking because the standards do not apply to solvent process vapors in concentrations greater than 40 ppm (EN 12619) and 10 ppm carbon (ISO 14965). Methods whose upper limits are this low are too limited to be useful in measuring source emissions, which are expected to be much higher.

The voluntary consensus standard, CAN/CSA Z223.2–M86 (1986), ''Method for the Continuous Measurement of Oxygen, Carbon Dioxide, Carbon Monoxide, Sulphur Dioxide, and Oxides of Nitrogen in Enclosed Combustion Flue Gas Streams,'' is unacceptable as a substitute for EPA Method 3A since it does not include quantitative specifications for measurement system performance, most notably the calibration procedures and instrument performance characteristics. The instrument performance characteristics that are provided are nonmandatory and also do not provide the same level of quality assurance as the EPA methods. For example, the zero and span/calibration drift is only checked weekly, whereas the EPA methods requires drift checks after each run.

Two very similar standards, ASTM D5835–95, ''Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration,'' and ISO 10396:1993, ''Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations,'' are impractical alternatives to EPA Method 3A for the purposes of this rulemaking because they lack in detail and quality assurance/quality control requirements. Specifically, these two standards do not include the following: (1) Sensitivity of the method; (2) acceptable levels of analyzer calibration error; (3) acceptable levels of sampling system bias; (4) zero drift and calibration drift limits, time span, and required testing frequency; (5) a method to test the interference response of the analyzer; (6) procedures to determine the minimum sampling time per run and minimum measurement time; and (7) specifications for data recorders, in terms of resolution (all types) and recording intervals (digital and analog recorders, only).

The voluntary consensus standard ISO 12039:2001, ''Stationary Source Emissions—Determination of Carbon Monoxide, Carbon Dioxide, and Oxygen—Automated Methods,'' is not acceptable as an alternative to EPA Method 3A. This ISO standard is similar to EPA Method 3A, but is missing some key features. In terms of sampling, the hardware required by ISO 12039:2001 does not include a 3-way calibration valve assembly or equivalent to block the sample gas flow while calibration gases are introduced. In its calibration procedures, ISO 12039:2001 only specifies a two-point calibration while EPA Method 3A specifies a three-point calibration. Also, ISO 12039:2001 does not specify performance criteria for calibration error, calibration drift, or sampling system bias tests as in the EPA method, although checks of these quality control features are required by the ISO standard.

Two of the 11 voluntary consensus standards identified in this search were not available at the time the review was conducted for the purposes of this rule because they are under development by a voluntary consensus body: ASME/BSR MFC 13M, ''Flow Measurement by Velocity Traverse,'' for EPA Method 2 (and possibly 1); and ASME/BSR MFC 12M, ''Flow in Closed Conduits Using Multiport Averaging Pitot Primary Flowmeters,'' for EPA Method 2.

Section 63.5160 to subpart SSSS of this standard list the EPA testing methods included in the regulation. Under § 63.7(f) of Subpart A of the General Provisions, a source may apply to EPA for permission to use alternative test methods in place of any of the EPA testing methods.

*J. Congressional Review Act*

The Congressional Review Act, 5 U.S.C. 801, *et seq.* as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

**List of Subjects in 40 CFR Part 63**

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: May 15, 2002.

**Christine Todd Whitman,**

*Administrator.*

For reasons set out in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

## PART 63—[AMENDED]

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

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

2. Section 63.14 is amended by revising paragraph (b) introductory text and adding new paragraphs (b)(24) and (25) and (j) to read as follows:

### § 63.14 Incorporations by reference.

* * * * *

(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; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

* * * * *

(24) ASTM D2697–86(1998) (Reapproved 1998), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for § 63.5160(c).

(25) ASTM D6093–97, Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for § 63.5160(c).

* * * * *

(j) The following material is available for purchase from at least one of the following addresses: ASME International, Orders/Inquiries, P.O. Box 2300, Fairfield, NJ 07007–2300; or Global Engineering Documents, Sales Department, 15 Inverness Way East, Englewood, CO 80112: ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses, IBR approved for § 63.5160(d)(1)(iii).

3. Part 63 is amended by adding subpart SSSS to read as follows:

## Subpart SSSS—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil

Sec.

**What This Subpart Covers**

63.5080 What is in this subpart?
63.5090 Does this subpart apply to me?
63.5100 Which of my emissions sources are affected by this subpart?
63.5110 What special definitions are used in this subpart?

**Emission Standards and Compliance Dates**

63.5120 What emission standards must I meet?
63.5121 What operating limits must I meet?
63.5130 When must I comply?

**General Requirements for Compliance with the Emission Standards and for Monitoring and Performance Tests**

63.5140 What general requirements must I meet to comply with the standards?
63.5150 If I use a control device to comply with the emission standards, what monitoring must I do?
63.5160 What performance tests must I complete?

**Requirements for Showing Compliance**

63.5170 How do I demonstrate compliance with the standards?

**Reporting and Recordkeeping**

63.5180 What reports must I submit?
63.5190 What records must I maintain?

**Delegation of Authority**

63.5200 What authorities may be delegated to the States?
63.5201–63.5209 [Reserved]

**Tables to Subpart SSSS of Part 63**

Table 1 to Subpart SSSS of Part 63. Operating Limits if Using Add-on Control Devices and Capture System
Table 2 to Subpart SSSS of Part 63. Applicability of General Provisions to Subpart SSSS

### What This Subpart Covers

#### § 63.5080 What is in this subpart?

This subpart describes the actions you must take to reduce emissions of hazardous air pollutants (HAP) if you own or operate a facility that performs metal coil surface coating operations and is a major source of HAP. This subpart establishes emission standards and states what you must do to comply. Certain requirements apply to all who must comply with the subpart; others depend on the means you use to comply with an emission standard.

#### § 63.5090 Does this subpart apply to me?

(a) The provisions of this subpart apply to each facility that is a major source of HAP, as defined in § 63.2, at which a coil coating line is operated, except as provided in paragraph (b) of this section.

(b) This subpart does not apply to any coil coating line that meets the criteria of paragraph (b)(1) or (2) of this section.

(1) A coil coating line that is part of research or laboratory equipment.

(2) A coil coating line on which at least 85 percent of the metal coil coated, based on surface area, is less than 0.15 millimeter (0.006 inch) thick, except as provided in paragraph (c) of this section.

(c) If you operate a coating line subject to subpart JJJJ of this part that also meets the criteria in either paragraph (c)(1) or (2) of this section, and you choose to comply with the requirements of this subpart, then such compliance constitutes compliance with subpart JJJJ. The coating line for which you choose this option is, therefore, included in the affected source for this subpart as defined in § 63.5110 and shall not be included in the affected source for subpart JJJJ as defined in § 63.3300.

(1) The coating line is used to coat metal coil of thicknesses both less than and greater than or equal to 0.15 millimeter (0.006 inch) thick, regardless of the percentage of surface area of each thickness coated.

(2) The coating line is used to coat only metal coil that is less than 0.15 millimeter (0.006 inch) thick and the coating line is controlled by a common control device that also receives organic HAP emissions from a coil coating line that is subject to the requirements of this subpart.

(d) Each coil coating line that does not comply with the provisions of this subpart because it meets the criteria in paragraph (b)(2) of this section, that for any rolling 12-month period fails to meet the criteria in paragraph (b)(2) would from that point forward become subject to the provisions of this subpart. After becoming subject to the provisions of this subpart, the coil coating line would no longer be eligible to use the criteria of paragraph (b)(2) of this section, even if in subsequent 12-month periods at least 85 percent of the metal coil coated, based on surface area, is less than 0.15 millimeter (0.006 inch) thick.

#### § 63.5100 Which of my emissions sources are affected by this subpart?

The affected source subject to this subpart is the collection of all of the coil coating lines at your facility.

#### § 63.5110 What special definitions are used in this subpart?

All terms used in this subpart that are not defined in this section have the meaning given to them in the Clean Air Act (CAA) and in subpart A of this part.

*Always-controlled work station* means a work station associated with a curing oven from which the curing oven exhaust is delivered to a control device with no provision for the oven exhaust to bypass the control device. Sampling lines for analyzers and relief valves needed for safety purposes are not considered bypass lines.

*Capture efficiency* means the fraction of all organic HAP emissions generated by a process that is delivered to a control device, expressed as a percentage.

*Capture system* means a hood, enclosed room, or other means of collecting organic HAP emissions and conveying them to a control device.

*Car-seal* means a seal that is placed on a device that is used to change the position of a valve or damper (e.g., from open to closed) in such a way that the position of the valve or damper cannot be changed without breaking the seal.

*Coating* means material applied onto or impregnated into a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, inks, adhesives, maskants, and temporary coatings. Decorative, protective, or functional materials that consist only of solvents, protective oils, acids, bases, or any combination of these substances are not considered coatings for the purposes of this subpart.

*Coating material* means the coating and other products (e.g., a catalyst and resin in multi-component coatings) combined to make a single material at

the coating facility that is applied to metal coil. For the purposes of this subpart, an organic solvent that is used to thin a coating prior to application to the metal coil is considered a coating material.

*Coil coating line* means a process and the collection of equipment used to apply an organic coating to the surface of metal coil. A coil coating line includes a web unwind or feed section, a series of one or more work stations, any associated curing oven, wet section, and quench station. A coil coating line does not include ancillary operations such as mixing/thinning, cleaning, wastewater treatment, and storage of coating material.

*Control device* means a device such as a solvent recovery device or oxidizer which reduces the organic HAP in an exhaust gas by recovery or by destruction.

*Control device efficiency* means the ratio of organic HAP emissions recovered or destroyed by a control device to the total organic HAP emissions that are introduced into the control device, expressed as a percentage.

*Curing oven* means the device that uses heat or radiation to dry or cure the coating material applied to the metal coil.

*Day* means a 24-consecutive-hour period.

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

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during start-up, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

*Existing affected source* means an affected source the construction of which commenced on or before July 18, 2000, and it has not subsequently undergone reconstruction as defined in § 63.2.

*Facility* means all contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

*Flexible packaging* means any package or part of a package the shape of which can be readily changed. Flexible packaging includes but is not limited to bags, pouches, labels, liners and wraps utilizing paper, plastic, film, aluminum foil, metalized or coated paper or film, or any combination of these materials.

*HAP applied* means the organic HAP content of all coating materials applied to a substrate by a coil coating line.

*Intermittently-controllable work station* means a work station associated with a curing oven with provisions for the curing oven exhaust to be delivered to a control device or diverted from a control device through a bypass line, depending on the position of a valve or damper. Sampling lines for analyzers and relief valves needed for safety purposes are not considered bypass lines.

*Metal coil* means a continuous metal strip that is at least 0.15 millimeter (0.006 inch) thick, which is packaged in a roll or coil prior to coating. After coating, it may or may not be rewound into a roll or coil. Metal coil does not include metal webs that are coated for use in flexible packaging.

*Month* means a calendar month or a pre-specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

*Never-controlled work station* means a work station which is not equipped with provisions by which any emissions, including those in the exhaust from any associated curing oven, may be delivered to a control device.

*New affected source* means an affected source the construction or reconstruction of which commenced after July 18, 2000.

*Overall organic HAP control efficiency* means the total efficiency of a control system, determined either by:

(1) The product of the capture efficiency as determined in accordance with the requirements of § 63.5160(e) and the control device efficiency as determined in accordance with the requirements of § 63.5160(a)(1)(i) and (ii) or § 63.5160(d); or

(2) A liquid-liquid material balance in accordance with the requirements of § 63.5170(e)(1).

*Permanent total enclosure (PTE)* means a permanently installed enclosure that meets the criteria of Method 204 of appendix M, 40 CFR part 51 for a PTE, and that directs all the exhaust gases from the enclosure to a control device.

*Protective oil* means an organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes but is not limited to lubricating oils, evaporative oils (including those that evaporate completely), and extrusion oils.

*Research or laboratory equipment* means any equipment for which the primary purpose is to conduct research and development into new processes and products, where such equipment is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

*Temporary total enclosure (TTE)* means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source, as defined in Method 204 of 40 CFR part 51, appendix M.

*Work station* means a unit on a coil coating line where coating material is deposited onto the metal coil substrate.

## Emission Standards and Compliance Dates

### § 63.5120 What emission standards must I meet?

(a) Each coil coating affected source must limit organic HAP emissions to the level specified in paragraph (a)(1), (2), or (3) of this section:

(1) No more than 2 percent of the organic HAP applied for each month during each 12-month compliance period (98 percent reduction); or

(2) No more than 0.046 kilogram (kg) of organic HAP per liter of solids applied during each 12-month compliance period; or

(3) If you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) on a dry basis is achieved and the efficiency of the capture system is 100 percent.

(b) You must demonstrate compliance with one of these standards by following the applicable procedures in § 63.5170.

### § 63.5121 What operating limits must I meet?

(a) Except as provided in paragraph (b) of this section, for any coil coating line for which you use an add-on control device, unless you use a solvent recovery system and conduct a liquid-liquid material balance according to § 63.5170(e)(1), you must meet the applicable operating limits specified in Table 1 to this subpart. You must establish the operating limits during the

performance test according to the requirements in § 63.5160(d)(3). You must meet the operating limits at all times after you establish them.

(b) If you use an add-on control device other than those listed in Table 1 to this subpart, or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of alternative monitoring under § 63.8(f).

### § 63.5130 When must I comply?

(a) For an existing affected source, the compliance date is 3 years after June 10, 2002.

(b) If you own or operate a new affected source subject to the provisions of this subpart, you must comply immediately upon start-up of the affected source, or by June 10, 2002, whichever is later.

(c) Affected sources which have undergone reconstruction are subject to the requirements for new affected sources.

(d) The initial compliance period begins on the applicable compliance date specified in paragraph (a) or (b) of this section and ends on the last day of the 12th month following the compliance date. If the compliance date falls on any day other than the first day of a month, then the initial compliance period extends through that month plus the next 12 months.

(e) For the purpose of demonstrating continuous compliance, a compliance period consists of 12 months. Each month after the end of the initial compliance period described in paragraph (d) of this section is the end of a compliance period consisting of that month and the preceding 11 months.

## General Requirements for Compliance with the Emission Standards and for Monitoring and Performance Tests

### § 63.5140 What general requirements must I meet to comply with the standards?

(a) You must be in compliance with the standards in this subpart at all times, except during periods of start-up, shutdown, and malfunction of any capture system and control device used to comply with this subpart. If you are complying with the emission standards of this subpart without the use of a capture system and control device, you must be in compliance with the standards at all times, including periods of start-up, shutdown, and malfunction.

(b) Table 2 of this subpart provides cross references to subpart A of this part, indicating the applicability of the General Provisions requirements to this subpart.

### § 63.5150 If I use a control device to comply with the emission standards, what monitoring must I do?

TABLE 1 TO § 63.5150.—CONTROL DEVICE MONITORING REQUIREMENTS INDEX

| If you operate a coil coating line and have the following: | Then you must: |
|---|---|
| 1. Control device | Monitor control device operating parameters (§ 63.5150(a)(3)). |
| 2. Capture system | Monitor capture system operating parameters (§ 63.5150(a)(4)). |
| 3. Intermittently controllable work station | Monitor parameters related to possible exhaust flow through any bypass to a control device (§ 63.5150(a)(1)). |
| 4. Continuous emission monitors | Operate continuous emission monitors and perform a quarterly audit (§ 63.5150(a)(2)). |

(a) To demonstrate continuing compliance with the standards, you must monitor and inspect each capture system and each control device required to comply with § 63.5120 following the date on which the initial performance test of the capture system and control device is completed. You must install and operate the monitoring equipment as specified in paragraphs (a)(1) through (4) of this section.

(1) *Bypass monitoring.* If you operate coil coating lines with intermittently-controllable work stations, you must follow at least one of the procedures in paragraphs (a)(1)(i) through (iv) of this section for each curing oven associated with these work stations to monitor for potential bypass of the control device:

(i) *Flow control position indicator.* Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that provides a record indicating whether the exhaust stream from the curing oven is directed to the control device or is diverted from the control device. The time and flow control position must be recorded at least once per hour, as well as every time the flow direction is changed. The flow control position indicator must be installed at the entrance to any bypass line that could divert the exhaust stream away from the control device to the atmosphere.

(ii) *Car-seal or lock-and-key valve closures.* Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration when the control device is in operation; a visual inspection of the seal or closure mechanism will be performed at least once every month to ensure that the valve or damper is maintained in the closed position, and the exhaust stream is not diverted through the bypass line.

(iii) *Valve closure continuous monitoring.* Ensure that any bypass line valve or damper is in the closed position through continuous monitoring of valve position when the control device is in operation. The monitoring system must be inspected at least once every month to verify that the monitor will indicate valve position.

(iv) *Automatic shutdown system.* Use an automatic shutdown system in which the coil coating line is stopped when flow is diverted away from the control device to any bypass line when the control device is in operation. The automatic shutdown system must be inspected at least once every month to verify that it will detect diversions of flow and shut down operations.

(2) *Continuous emission monitoring system (CEMS).* If you are demonstrating continuous compliance with the standards in § 63.5120(a)(1) or (2) through continuous emission monitoring of a control device, you must install, calibrate, operate, and maintain continuous emission monitors to measure the total organic volatile matter concentration at both the control device inlet and outlet, and you must continuously monitor flow rate. If you are demonstrating continuous compliance with the outlet organic HAP concentration limit in § 63.5120(a)(3), you must install, calibrate, operate, and maintain a continuous emission monitor to measure the total organic volatile matter concentration at the control device outlet.

(i) All CEMS must comply with performance specification 8 or 9 of 40 CFR part 60, appendix B, as appropriate for the detection principle you choose.

The requirements of 40 CFR part 60, procedure 1, appendix F must also be followed. In conducting the quarterly audits of the monitors as required by procedure 1, appendix F, you must use compounds representative of the gaseous emission stream being controlled.

(ii) As specified in § 63.8(c)(4)(ii), each CEMS and each flow rate monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. Information which must be determined for recordkeeping purposes, as required by § 63.5190(a)(1)(i) includes:

(A) The hourly average of all recorded readings;

(B) The daily average of all recorded readings for each operating day; and

(C) The monthly average for each month during the semiannual reporting period.

(3) *Temperature monitoring of oxidizers.* If you are complying with the requirements of the standards in § 63.5120 through the use of an oxidizer and demonstrating continuous compliance through monitoring of an oxidizer operating parameter, you must comply with paragraphs (a)(3)(i) through (iii) of this section.

(i) Install, calibrate, maintain, and operate temperature monitoring equipment according to manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months; or the chart recorder, data logger, or temperature indicator must be replaced. You must replace the equipment either if you choose not to perform the calibration, or if the equipment cannot be calibrated properly. Each temperature monitoring device must be equipped with a continuous recorder. The device must have an accuracy of ±1 percent of the temperature being monitored in degrees Celsius, or ±1° Celsius, whichever is greater.

(ii) For an oxidizer other than a catalytic oxidizer, to demonstrate continuous compliance with the operating limit established according to § 63.5160(d)(3)(i), you must install the thermocouple or temperature sensor in the combustion chamber at a location in the combustion zone.

(iii) For a catalytic oxidizer, if you are demonstrating continuous compliance with the operating limit established according to § 63.5160(d)(3)(ii)(A) and (B), then you must install the thermocouples or temperature sensors in the vent stream at the nearest feasible point to the inlet and outlet of the catalyst bed. Calculate the temperature difference across the catalyst. If you are demonstrating continuous compliance with the operating limit established according to § 63.5160(d)(3)(ii)(C) and (D), then you must install the thermocouple or temperature sensor in the vent stream at the nearest feasible point to the inlet of the catalyst bed.

(4) *Capture system monitoring.* If you are complying with the requirements of the standards in § 63.5120 through the use of a capture system and control device, you must develop a capture system monitoring plan containing the information specified in paragraphs (a)(4)(i) and (ii) of this section. You must monitor the capture system in accordance with paragraph (a)(4)(iii) of this section. You must make the monitoring plan available for inspection by the permitting authority upon request.

(i) The monitoring plan must identify the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained, explain why this parameter is appropriate for demonstrating ongoing compliance, and identify the specific monitoring procedures.

(ii) The plan also must specify operating limits at the capture system operating parameter value, or range of values, that demonstrates compliance with the standards in § 63.5120. The operating limits must represent the conditions indicative of proper operation and maintenance of the capture system.

(iii) You must conduct monitoring in accordance with the plan.

(b) Any deviation from the required operating parameters which are monitored in accordance with paragraphs (a)(3) and (4) of this section, unless otherwise excused, will be considered a deviation from the operating limit.

**§ 63.5160 What performance tests must I complete?**

TABLE 1 TO § 63.5160.—REQUIRED PERFORMANCE TESTING SUMMARY

| If you control HAP on your coil coating line by: | You must: |
|---|---|
| 1. Limiting HAP or Volatile matter content of coatings | Determine the HAP or volatile matter and solids content of coating materials according to the procedures in § 63.5160(b) and (c). |
| 2. Using a capture system and add-on control device | Conduct a performance test for each capture and control system to determine: (1) the destruction or removal efficiency of each control device according to § 63.5160(d), and (2) the capture efficiency of each capture system according to § 63.5160(e). |

(a) If you use a control device to comply with the requirements of § 63.5120, you are not required to conduct a performance test to demonstrate compliance if one or more of the criteria in paragraphs (a)(1) through (3) of this section are met:

(1) The control device is equipped with continuous emission monitors for determining total organic volatile matter concentration, and capture efficiency has been determined in accordance with the requirements of this subpart; and the continuous emission monitors are used to demonstrate continuous compliance in accordance with § 63.5150(a)(2); or

(2) You have received a waiver of performance testing under § 63.7(h); or

(3) The control device is a solvent recovery system and you choose to comply by means of a monthly liquid-liquid material balance.

(b) *Organic HAP content.* You must determine the organic HAP weight fraction of each coating material applied by following one of the procedures in paragraphs (b)(1) through (4) of this section:

(1) *Method 311.* You may test the material in accordance with Method 311 of appendix A of this part. The Method 311 determination may be performed by the manufacturer of the material and the results provided to you. The organic HAP content must be calculated according to the criteria and procedures in paragraphs (b)(1)(i) through (iii) of this section.

(i) Count only those organic HAP that are measured to be present at greater than or equal to 0.1 weight percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 weight percent for other organic HAP compounds.

(ii) Express the weight fraction of each organic HAP you count according to paragraph (b)(1)(i) of this section as a value truncated to four places after the decimal point (for example, 0.3791).

(iii) Calculate the total weight fraction of organic HAP in the tested material by summing the counted individual organic HAP weight fractions and truncating the result to three places after the decimal point (for example, 0.763).

(2) *Method 24.* For coatings, you may determine the total volatile matter content as weight fraction of nonaqueous volatile matter and use it as a substitute for organic HAP, using Method 24 of 40 CFR part 60, appendix A. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to you.

(3) *Alternative method.* You may use an alternative test method for determining the organic HAP weight fraction once the Administrator has approved it. You must follow the procedure in § 63.7(f) to submit an alternative test method for approval.

(4) *Formulation data.* You may use formulation data provided that the information represents each organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used, weighted by the mass fraction of each raw material used in the material. Formulation data may be provided to you by the manufacturer of the coating material. In the event of any inconsistency between test data obtained with the test methods specified in paragraphs (b)(1) through (3) of this section and formulation data, the test data will govern.

(c) *Solids content.* You must determine the solids content of each coating material applied. You may determine the volume solids content using ASTM D2697–86 (Reapproved 1998) or ASTM D6093–97 (incorporated by reference, see § 63.14), or an EPA approved alternative method. The ASTM D2697–86 (Reapproved 1998) or ASTM D6093–97 determination may be performed by the manufacturer of the material and the results provided to you. Alternatively, you may rely on formulation data provided by material providers to determine the volume solids.

(d) *Control device destruction or removal efficiency.* If you are using an add-on control device, such as an oxidizer, to comply with the standard in § 63.5120, you must conduct a performance test to establish the destruction or removal efficiency of the control device or the outlet HAP concentration achieved by the oxidizer, according to the methods and procedures in paragraphs (d)(1) and (2) of this section. During the performance test, you must establish the operating limits required by § 63.5121 according to paragraph (d)(3) of this section.

(1) An initial performance test to establish the destruction or removal efficiency of the control device must be conducted such that control device inlet and outlet testing is conducted simultaneously. To establish the outlet organic HAP concentration achieved by the oxidizer, only oxidizer outlet testing must be conducted. The data must be reduced in accordance with the test methods and procedures in paragraphs (d)(1)(i) through (ix).

(i) Method 1 or 1A of 40 CFR part 60, appendix A, is used for sample and velocity traverses to determine sampling locations.

(ii) Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR part 60, appendix A, is used to determine gas volumetric flow rate.

(iii) Method 3, 3A, or 3B of 40 CFR part 60, appendix A, used for gas analysis to determine dry molecular weight. You may also use as an alternative to Method 3B, the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas, ANSI/ASME PTC 19.10–1981, ''Flue and Exhaust Gas Analyses'' (incorporated by reference, see § 63.14).

(iv) Method 4 of 40 CFR part 60, appendix A, is used to determine stack gas moisture.

(v) Methods for determining gas volumetric flow rate, dry molecular weight, and stack gas moisture must be performed, as applicable, during each test run, as specified in paragraph (d)(1)(vii) of this section.

(vi) Method 25 or 25A of 40 CFR part 60, appendix A, is used to determine total gaseous non-methane organic matter concentration. Use the same test method for both the inlet and outlet measurements, which must be conducted simultaneously. You must submit notification of the intended test method to the Administrator for approval along with notification of the performance test required under § 63.7 (b). You must use Method 25A if any of the conditions described in paragraphs (d)(1)(vi)(A) through (D) of this section apply to the control device.

(A) The control device is not an oxidizer.

(B) The control device is an oxidizer, but an exhaust gas volatile organic matter concentration of 50 ppmv or less is required to comply with the standards in § 63.5120; or

(C) The control device is an oxidizer, but the volatile organic matter concentration at the inlet to the control system and the required level of control are such that they result in exhaust gas volatile organic matter concentrations of 50 ppmv or less; or

(D) The control device is an oxidizer, but because of the high efficiency of the control device, the anticipated volatile organic matter concentration at the control device exhaust is 50 ppmv or less, regardless of inlet concentration.

(vii) Each performance test must consist of three separate runs, except as provided by § 63.7(e)(3); each run must be conducted for at least 1 hour under the conditions that exist when the affected source is operating under normal operating conditions. For the purpose of determining volatile organic matter concentrations and mass flow rates, the average of the results of all runs will apply. If you are demonstrating initial compliance with the outlet organic HAP concentration limit in § 63.5120(a)(3), only the average outlet volatile organic matter concentration must be determined.

(viii) If you are determining the control device destruction or removal efficiency, for each run, determine the volatile organic matter mass flow rates using Equation 1 of this section:

$$M_f = Q_{sd} C_C (12)(0.0416)\left(10^{-6}\right) \qquad \text{(Eq. 1)}$$

Where:

$M_f$=total organic volatile matter mass flow rate, kg/per hour (h).

$C_c$=concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A, ppmv, dry basis.

$Q_{sd}$=volumetric flow rate of gases entering or exiting the control device, as determined by Method 2, 2A, 2C, 2D, 2F, or 2G, dry standard cubic meters (dscm)/h.

0.0416=conversion factor for molar volume, kg-moles per cubic meter (mol/m$^3$) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

(ix) For each run, determine the control device destruction or removal efficiency, DRE, using Equation 2 of this section:

$$DRE = \frac{M_{fi} - M_{fo}}{M_{fi}} \times 100 \qquad \text{(Eq. 2)}$$

Where:

DRE=organic emissions destruction or removal efficiency of the add-on control device, percent.

$M_{fi}$=organic volatile matter mass flow rate at the inlet to the control device, kg/h.

$M_{fo}$=organic volatile matter mass flow rate at the outlet of the control device, kg/h.

(x) The control device destruction or removal efficiency is determined as the

average of the efficiencies determined in the three test runs and calculated in Equation 2 of this section.

(2) You must record such process information as may be necessary to determine the conditions in existence at the time of the performance test. Operations during periods of start-up, shutdown, and malfunction will not constitute representative conditions for the purpose of a performance test.

(3) Operating limits. If you are using a capture system and add-on control device other than a solvent recovery system for which you conduct a liquid-liquid material balance to comply with the requirements in § 63.5120, you must establish the applicable operating limits required by § 63.5121. These operating limits apply to each capture system and to each add-on emission control device that is not monitored by CEMS, and you must establish the operating limits during the performance test required by paragraph (d) of this section according to the requirements in paragraphs (d)(3)(i) through (iii) of this section.

(i) *Thermal oxidizer.* If your add-on control device is a thermal oxidizer, establish the operating limits according to paragraphs (d)(3)(i)(A) and (B) of this section.

(A) During the performance test, you must monitor and record the combustion temperature at least once every 15 minutes during each of the three test runs. You must monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

(B) Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for your thermal oxidizer.

(ii) *Catalytic oxidizer.* If your add-on control device is a catalytic oxidizer, establish the operating limits according to either paragraphs (d)(3)(ii)(A) and (B) or paragraphs (d)(3)(ii)(C) and (D) of this section.

(A) During the performance test, you must monitor and record the temperature just before the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the three test runs.

(B) Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. These are the minimum operating limits for your catalytic oxidizer.

(C) As an alternative to monitoring the temperature difference across the catalyst bed, you may monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for your catalytic oxidizer as specified in paragraph (d)(3)(ii)(D) of this section. During the performance test, you must monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. This is the minimum operating limit for your catalytic oxidizer.

(D) You must develop and implement an inspection and maintenance plan for your catalytic oxidizer(s) for which you elect to monitor according to paragraph (d)(3)(ii)(C) of this section. The plan must address, at a minimum, the elements specified in paragraphs (d)(3)(ii)(D)(*1* (*3*) of this section.

(*1*) Annual sampling and analysis of the catalyst activity (*i.e.,* conversion efficiency) following the manufacturer's or catalyst supplier's recommended procedures.

(*2*) Monthly inspection of the oxidizer system including the burner assembly and fuel supply lines for problems and,

(*3*) Annual internal and monthly external visual inspection of the catalyst bed to check for channeling, abrasion, and settling. If problems are found, you must take corrective action consistent with the manufacturer's recommendations and conduct a new performance test to determine destruction efficiency according to § 63.5160.

(iii) *Other types of control devices.* If you use a control device other than an oxidizer or a solvent recovery system for which you choose to comply by means of a monthly liquid-liquid material balance, or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of alternative monitoring under § 63.8(f).

(e) *Capture efficiency.* If you are required to determine capture efficiency to meet the requirements of § 63.5170(e)(2), (f)(1) through (2), (h)(2) through (4), or (i)(2) through (3), you must determine capture efficiency using the procedures in paragraph (e)(1), (2), or (3) of this section, as applicable.

(1) For an enclosure that meets the criteria for a PTE, you may assume it achieves 100 percent capture efficiency. You must confirm that your capture system is a PTE by demonstrating that it meets the requirements of section 6 of EPA Method 204 of 40 CFR part 51, appendix M (or an EPA approved alternative method), and that all exhaust gases from the enclosure are delivered to a control device.

(2) You may determine capture efficiency, CE, according to the protocols for testing with temporary total enclosures that are specified in Method 204A through F of 40 CFR part 51, appendix M. You may exclude never-controlled work stations from such capture efficiency determinations.

(3) As an alternative to the procedures specified in paragraphs (e)(1) and (2) of this section, if you are required to conduct a capture efficiency test, you may use any capture efficiency protocol and test methods that satisfy the criteria of either the Data Quality Objective or the Lower Confidence Limit approach as described in appendix A to subpart KK of this part. You may exclude never-controlled work stations from such capture efficiency determinations.

## Requirements for Showing Compliance

### § 63.5170 How do I demonstrate compliance with the standards?

You must include all coating materials (as defined in § 63.5110) used in the affected source when determining compliance with the applicable emission limit in § 63.5120. To make this determination, you must use at least one of the four compliance options listed in Table 1 of this section. You may apply any of the compliance options to an individual coil coating line, or to multiple lines as a group, or to the entire affected source. You may use different compliance options for different coil coating lines, or at different times on the same line. However, you may not use different compliance options at the same time on the same coil coating line. If you switch between compliance options for any coil coating line or group of lines, you must document this switch as required by § 63.5190(a), and you must report it in the next semiannual compliance report required in § 63.5180.

TABLE 1 TO § 63.5170.—COMPLIANCE DEMONSTRATION REQUIREMENTS INDEX

| If you choose to demonstrate compliance by: | Then you must demonstrate that: |
|---|---|
| 1. Use of ''as purchased'' compliant coatings .... | a. Each coating material used during the 12-month compliance period does not exceed 0.046 kg HAP per liter solids, as purchased. Paragraph (a) of this section. |
| 2. Use of ''as applied'' compliant coatings ..... | a. Each coating material used does not exceed 0.046 kg HAP per liter solids on a rolling 12-month average as applied basis, determined monthly. Paragraphs (b)(1) of this section; or<br>b. Average of all coating materials used does not exceed 0.046 kg HAP per liter solids on a rolling 12-month average as applied basis, determined monthly. Paragraph (b)(2) of this section. |
| 3. Use of a capture system and control device .. | Overall organic HAP control efficiency is at least 98 percent on a monthly basis for individual or groups of coil coating lines; or overall organic HAP control efficiency is at least 98 percent during initial performance test and operating limits are achieved continuously for individual coil coating lines; or oxidizer outlet HAP concentration is no greater than 20 ppmv and there is 100 percent capture efficiency during initial performance test and operating limits are achieved continuously for individual coil coating lines. Paragraph (c) of this section. |
| 4. Use of a combination of compliant coatings and control devices and maintaining an acceptable equivalent emission rate. | Average equivalent emission rate does not exceed 0.046 kg HAP per liter solids on a rolling 12-month average as applied basis, determined monthly. Paragraph (d) of this section. |

(a) *As-purchased compliant coatings.* If you elect to use coatings that individually meet the organic HAP emission limit in § 63.5120(a)(2) as-purchased, to which you will not add HAP during distribution or application, you must demonstrate that each coating material applied during the 12-month compliance period contains no more than 0.046 kg HAP per liter of solids on an as-purchased basis.

(1) Determine the organic HAP content for each coating material in accordance with § 63.5160(b) and the volume solids content in accordance with § 63.5160(c).

(2) Combine these results using Equation 1 of this section and compare the result to the organic HAP emission limit in § 63.5120(a)(2) to demonstrate that each coating material contains no more organic HAP than the limit.

$$H_{siap} = \frac{C_{hi} D_i}{V_{si}} \qquad \text{(Eq. 1)}$$

Where:

$H_{siap}$ = as-purchased, organic HAP to solids ratio of coating material, i, kg organic HAP/liter solids applied.

$C_{hi}$ = organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg.

$D_i$ = density of coating material, i, kg/l.

Vsi = volume fraction of solids in coating, i, l/l.

(b) *As-applied compliant coatings.* If you choose to use ''as-applied'' compliant coatings, you must demonstrate that the average of each coating material applied during the 12-month compliance period contains no more than 0.046 kg of organic HAP per liter of solids applied in accordance with (b)(1) of this section, or demonstrate that the average of all coating materials applied during the 12-month compliance period contain no more than 0.046 kg of organic HAP per liter of solids applied in accordance with paragraph (b)(2) of this section.

(1) To demonstrate that the average organic HAP content on the basis of solids applied for each coating material applied, $H_{Si\ yr}$, is less than 0.046 kg HAP per liter solids applied for the 12-month compliance period, use Equation 2 of this section:

$$H_{Si\ yr} = \frac{\sum_{y=1}^{12}\left[V_i D_i C_{ahi} + \sum_{i=1}^{q} V_j D_j C_{hij}\right]}{\sum_{y=1}^{12} V_i V_{si}} \qquad \text{(Eq. 2)}$$

Where:

$H_{si\ yr}$ = average for the 12-month compliance period, as-applied, organic HAP to solids ratio of material, i, kg organic HAP/liter solids applied.

$V_i$ = volume of coating material, i, l.

$D_i$ = density of coating material, i, kg/l.

$C_{ahi}$ = monthly average, as-applied, organic HAP content of solids-containing coating material, i, expressed as a weight fraction, kilogram (kg)/kg.

$V_j$ = volume of solvent, j, l.

$D_j$ = density of solvent, j, kg/l.

$C_{hij}$ = organic HAP content of solvent, j, added to coating material, i, expressed as a weight fraction, kg/kg.

$V_{si}$ = volume fraction of solids in coating, i, l/l.

y = identifier for months.

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(2) To demonstrte that the average organic HAP content on the basis of solids applied, $H_{S\ yr}$, of all coating materials applied is less than 0.046 kg HAP per liter solids applied for the 12-month compliance period, use Equation 3 of this section:

$$H_{S\ yr} = \frac{\sum_{y=1}^{12}\left[\sum_{i=1}^{p} V_i D_i C_{ahi} + \sum_{j=1}^{q} V_j D_j C_{hij}\right]}{\sum_{y=1}^{12}\left[\sum_{i=1}^{p} V_i V_{si}\right]} \qquad \text{(Eq. 3)}$$

Where:

$H_{S\ yr}$ = average for the 12-month compliance period, as-applied, organic HAP to solids ratio of all materials applied, kg organic HAP/liter solids applied.

Vi = volume of coating material, i, l.

$D_i$ = density of coating material, i, kg/l.

$C_{ahi}$ = monthly average, as-applied, organic HAP content of solids-containing coating material, i, expressed as a weight fraction, kilogram (kg)/kg.

Vj = volume of solvent, j, l.

$D_j$ = density of solvent, j, kg/l.

$C_{hij}$ = organic HAP content of solvent, j, added to coating material, i, expressed as a weight fraction, kg/kg.

Vsi = volume fraction of solids in coating, i, l/l.

p = number of different coating materials applied in a month.

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

y = identifier for months.

(c) *Capture and control to reduce emissions to no more than the allowable limit.* If you use one or more capture systems and one or more control devices and demonstrate an average overall organic HAP control efficiency of at least 98 percent for each month to comply with § 63.5120(a)(1); or operate a capture system and oxidizer so that the capture efficiency is 100 percent and the oxidizer outlet HAP concentration is no greater than 20 ppmv on a dry basis to comply with § 63.5120(a)(3), you must follow one of the procedures in paragraphs (c)(1) through (4) of this section. Alternatively, you may demonstrate compliance for an individual coil coating line by operating its capture system and control device and continuous parameter monitoring system according to the procedures in paragraph (i) of this section.

(1) If the affected source uses one compliance procedure to limit organic HAP emissions to the level specified in § 63.5120(a)(1) or (2) and has only always-controlled work stations, then you must demonstrate compliance with the provisions of paragraph (e) of this section when emissions from the affected source are controlled by one or more solvent recovery devices.

(2) If the affected source uses one compliance procedure to limit organic HAP emissions to the level specified in § 63.5120(a)(1) or (2) and has only always-controlled work stations, then you must demonstrate compliance with the provisions of paragraph (f) of this section when emissions are controlled by one or more oxidizers.

(3) If the affected source operates both solvent recovery and oxidizer control devices, one or more never-controlled work stations, or one or more intermittently-controllable work stations, or uses more than one compliance procedure, then you must demonstrate compliance with the provisions of paragraph (g) of this section.

(4) The method of limiting organic HAP emissions to the level specified in § 63.5120(a)(3) is the installation and operation of a PTE around each work station and associated curing oven in the coating line and the ventilation of all organic HAP emissions from each PTE to an oxidizer with an outlet organic HAP concentration of no greater than 20 ppmv on a dry basis. An enclosure that meets the requirements in § 63.5160(e)(1) is considered a PTE. Initial compliance of the oxidizer with the outlet organic HAP concentration limit is demonstrated either through continuous emission monitoring according to paragraph (c)(4)(ii) of this section or through performance tests using the procedure in § 63.5160(d). If this method is selected, you must meet the requirements of paragraph (c)(4)(i) of this section to demonstrate continuing achievement of 100 percent capture of organic HAP emissions and either paragraph (c)(4)(ii) or paragraph (c)(4)(iii) of this section, respectively, to demonstrate continuous compliance with the oxidizer outlet organic HAP concentration limit through continuous emission monitoring or continuous operating parameter monitoring:

(i) Whenever a work station is operated, continuously monitor the capture system operating parameter established in accordance with § 63.5150(a)(4).

(ii) To demonstrate that the value of the exhaust gas organic HAP concentration at the outlet of the oxidizer is no greater than 20 ppmv, on a dry basis, install, calibrate, operate, and maintain CEMS according to the requirements of § 63.5150(a)(2).

(iii) To demonstrate continuous compliance with operating limits established in accordance with § 63.5150(a)(3), whenever a work station is operated, continuously monitor the applicable oxidizer operating parameter.

(d) *Capture and control to achieve the emission rate limit.* If you use one or more capture systems and one or more control devices and limit the organic HAP emission rate to no more than 0.046 kg organic HAP emitted per liter of solids applied on a 12-month average as-applied basis, then you must follow one of the procedures in paragraphs (d)(1) through (3) of this section.

(1) If you use one or more solvent recovery devices, you must demonstrate compliance with the provisions in paragraph (e) of this section.

(2) If you use one or more oxidizers, you must demonstrate compliance with the provisions in paragraph (f) of this section.

(3) If you use both solvent recovery devices and oxidizers, or operate one or more never-controlled work stations or one or more intermittently controllable work stations, you must demonstrate compliance with the provisions in paragraph (g) of this section.

(e) *Use of solvent recovery to demonstrate compliance.* If you use one or more solvent recovery devices to control emissions from always-controlled work stations, you must show compliance by following the procedures in either paragraph (e)(1) or (2) of this section:

(1) *Liquid-liquid material balance.* Perform a liquid-liquid material balance for each month as specified in paragraphs (e)(1)(i) through (vi) of this section and use Equations 4 through 6 of this section to convert the data to units of this standard. All determinations of quantity of coating and composition of coating must be made at a time and location in the process after all ingredients (including any dilution solvent) have been added to the coating, or appropriate adjustments must be made to account for any ingredients added after the amount of coating has been determined.

(i) Measure the mass of each coating material applied on the work station or group of work stations controlled by one or more solvent recovery devices during the month.

(ii) If demonstrating compliance with the organic HAP emission rate based on solids applied, determine the organic HAP content of each coating material applied during the month following the procedure in § 63.5160(b).

(iii) Determine the volatile matter content of each coating material applied during the month following the procedure in § 63.5160(c).

(iv) If demonstrating compliance with the organic HAP emission rate based on solids applied, determine the solids content of each coating material applied during the month following the procedure in § 63.5160(c).

(v) For each solvent recovery device used to comply with § 63.5120(a), install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The device must be initially certified by the manufacturer to be accurate to within ± 2.0 percent.

(vi) For each solvent recovery device used to comply with § 63.5120(a),

measure the amount of volatile matter recovered for the month.

(vii) *Recovery efficiency, $R_v$.* Calculate the volatile organic matter collection and recovery efficiency, $R_v$, using Equation 4 of this section:

$$R_v = 100 \frac{\sum_{k=1}^{s} M_{kvr}}{\sum_{i=1}^{p} M_i C_{vi} + \sum_{j=1}^{q} M_j} \qquad \text{(Eq. 4)}$$

Where:

$R_v$ = organic volatile matter collection and recovery efficiency, percent.

$M_{kvr}$ = mass of volatile matter recovered in a month by solvent recovery device, k, kg.

$M_i$ = mass of coating material, i, applied in a month, kg.

$C_{vi}$ = volatile matter content of coating material, i, expressed as a weight fraction, kg/kg.

$M_j$ = mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material (excluding $H_2O$), j, applied in a month, kg.

p = number of different coating materials applied in a month.

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

s = number of solvent recovery devices used to comply with the standard of § 63.5120 of this subpart, in the facility.

(viii) *Organic HAP emitted, $H_e$.* Calculate the mass of organic HAP emitted during the month, $H_e$, using Equation 5 of this section:

$$H_e = \left[1 - \frac{R_v}{100}\right]\left[\sum_{i=1}^{p}\left(C_{hi} M_i + \sum_{j=1}^{q} C_{hij} M_{ij}\right)\right] \qquad \text{(Eq. 5)}$$

Where:

$H_e$ = total monthly organic HAP emitted, kg.

$R_v$ = organic volatile matter collection and recovery efficiency, percent.

$C_{hi}$ = organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg.

$M_i$ = mass of coating material, i, applied in a month, kg.

$C_{hij}$ = organic HAP content of solvent, j, added to coating material, i, expressed as a weight fraction, kg/kg.

$M_{ij}$ = mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, added to solids-containing coating material, i, in a month, kg.

p = number of different coating materials applied in a month.

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(ix) *Organic HAP emission rate based on solids applied for the 12-month compliance period, $L_{ANNUAL}$.* Calculate the organic HAP emission rate based on solids applied for the 12-month compliance period, $L_{ANNUAL}$, using Equation 6 of this section:

$$L_{ANNUAL} = \frac{\sum_{y=1}^{12} H_e}{\sum_{y=1}^{12}\left[\sum_{i=1}^{p} C_{si} M_i\right]} \qquad \text{(Eq. 6)}$$

Where:

$L_{ANNUAL}$ = mass organic HAP emitted per volume of solids applied for the 12-month compliance period, kg/liter.

$H_e$ = total monthly organic HAP emitted, kg.

$C_{si}$ = solids content of coating material, i, expressed as liter of solids/kg of material.

$M_i$ = mass of coating material, i, applied in a month, kg.

y = identifier for months.

p = number of different coating materials applied in a month.

(x) *Compare actual performance to performance required by compliance option.* The affected source is in compliance with § 63.5120(a) if it meets the requirement in either paragraph (e)(1)(x)(A) or (B) of this section:

(A) The average volatile organic matter collection and recovery efficiency, $R_v$, is 98 percent or greater each month of the 12-month compliance period; or

(B) The organic HAP emission rate based on solids applied for the 12-month compliance period, $L_{ANNUAL}$, is 0.046 kg organic HAP per liter solids applied or less.

(2) *Continuous emission monitoring of control device performance.* Use continuous emission monitors to demonstrate recovery efficiency, conduct an initial performance test of capture efficiency and volumetric flow rate, and continuously monitor a site specific operating parameter to ensure that capture efficiency and volumetric flow rate are maintained following the procedures in paragraphs (e)(2)(i) through (xi) of this section:

(i) *Control device destruction or removal efficiency, DRE.* For each control device used to comply with § 63.5120(a), continuously monitor the gas stream entering and exiting the control device to determine the total volatile organic matter mass flow rate (e.g., by determining the concentration of the vent gas in grams per cubic meter and the volumetric flow rate in cubic meters per second, such that the total volatile organic matter mass flow rate in grams per second can be calculated using Equation 1 of § 63.5160, and the percent destruction or removal efficiency, DRE, of the control device can be calculated for each month using Equation 2 of § 63.5160.

(ii) Determine the percent capture efficiency, CE, for each work station in accordance with § 63.5160(e).

(iii) *Capture efficiency monitoring.* Whenever a work station is operated, continuously monitor the operating parameter established in accordance with § 63.5150(a)(4).

(iv) *Control efficiency, R.* Calculate the overall organic HAP control efficiency, R, achieved for each month using Equation 7 of this section:

$$R = 100 \frac{\sum_{A=1}^{w}\left[\left(DRE_K CE_A\right)\left(\sum_{i=1}^{p} M_{Ai} C_{vi} + \sum_{j=1}^{q} M_{Aj}\right)\right]}{\sum_{i=1}^{p} M_i C_{vi} + \sum_{j=1}^{q} M_j} \qquad \text{(Eq. 7)}$$

Where:
R=overall organic HAP control efficiency, percent.
$DRE_k$=organic volatile matter destruction or removal efficiency of control device, k, percent.
$CE_A$=organic volatile matter capture efficiency of the capture system for work station, A, percent.
$M_{Ai}$=mass of coating material, i, applied on work station, A, in a month, kg.
$C_{vi}$=volatile matter content of coating material, i, expressed as a weight fraction, kg/kg.
$M_{Aj}$=mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material (including $H_2O$), j, applied on work station, A, in a month, kg.
$M_i$=mass of coating material, i, applied in a month, kg.
$M_j$=mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material (excluding $H_2O$), j, applied in a month, kg.
w=number of always-controlled work stations in the facility.
p=number of different coating materials applied in a month.
q=number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(v) If demonstrating compliance with the organic HAP emission rate based on solids applied, measure the mass of each coating material applied on each work station during the month.

(vi) If demonstrating compliance with the organic HAP emission rate based on solids applied, determine the organic HAP content of each coating material applied during the month in accordance with § 63.5160(b).

(vii) If demonstrating compliance with the organic HAP emission rate based on solids applied, determine the solids content of each coating material applied during the month in accordance with § 63.5160(c).

(viii) If demonstrating compliance with the organic HAP emission rate based on solids applied, calculate the organic HAP emitted during the month, $H_e$, for each month using Equation 8 of this section:

$$H_e = \sum_{A=1}^{w}\left[\left(1-\left(DRE_K CE_A\right)\right)\left(\sum_{i=1}^{p}\left(C_{hi}M_{Ai}+\sum_{j=1}^{q}C_{hij}M_{Aij}\right)\right)\right] \qquad \text{(Eq. 8)}$$

Where:
$H_e$=total monthly organic HAP emitted, kg.
$DRE_k$=organic volatile matter destruction or removal efficiency of control device, k, percent.
$CE_A$=organic volatile matter capture efficiency of the capture system for work station, A, percent.
$C_{hi}$=organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg.
$M_{Ai}$=mass of coating material, i, applied on work station, A, in a month, kg.
$C_{hij}$=organic HAP content of solvent, j, added to coating material, i, expressed as a weight fraction, kg/kg.
$M_{Aij}$=mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, added to solids-containing coating material, i, applied on work station, A, in a month, kg.
w=number of always-controlled work stations in the facility.
p=number of different coating materials applied in a month.
q=number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(ix) *Organic HAP emission rate based on solids applied for the 12-month compliance period, $L_{ANNUAL}$.* Calculate the organic HAP emission rate based on solids applied for the 12-month compliance period, $L_{ANNUAL}$, using Equation 6 of this section.

(x) *Compare actual performance to performance required by compliance option.* The affected source is in compliance with § 63.5120(a) if each capture system operating parameter is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with § 63.5150 for each 3-hour period; and

(A) The overall organic HAP control efficiency, R, is 98 percent or greater for each; or

(B) The organic HAP emission rate based on solids applied for the 12-month compliance period, $L_{ANNUAL}$, is 0.046 kg organic HAP per liter solids applied or less.

(f) *Use of oxidation to demonstrate compliance.* If you use one or more oxidizers to control emissions from always controlled work stations, you must follow the procedures in either paragraph (f)(1) or (2) of this section:

(1) *Continuous monitoring of capture system and control device operating parameters.* Demonstrate initial compliance through performance tests of capture efficiency and control device efficiency and continuing compliance through continuous monitoring of capture system and control device operating parameters as specified in paragraphs (f)(1)(i) through (xi) of this section:

(i) For each oxidizer used to comply with § 63.5120(a), determine the oxidizer destruction or removal efficiency, DRE, using the procedure in § 63.5160(d).

(ii) Whenever a work station is operated, continuously monitor the operating parameter established in accordance with § 63.5150(a)(3).

(iii) Determine the capture system capture efficiency, CE, for each work station in accordance with § 63.5160(e).

(iv) Whenever a work station is operated, continuously monitor the operating parameter established in accordance with § 63.5150(a)(4).

(v) Calculate the overall organic HAP control efficiency, R, achieved using Equation 7 of this section.

(vi) If demonstrating compliance with the organic HAP emission rate based on solids applied, measure the mass of each coating material applied on each work station during the month.

(vii) If demonstrating compliance with the organic HAP emission rate based on solids applied, determine the organic HAP content of each coating material applied during the month following the procedure in § 63.5160(b).

(viii) If demonstrating compliance with the organic HAP emission rate based on solids applied, determine the solids content of each coating material applied during the month following the procedure in § 63.5160(c).

(ix) Calculate the organic HAP emitted during the month, $H_e$, for each month:

(A) For each work station and its associated oxidizer, use Equation 8 of this section.

(B) For periods when the oxidizer has not operated within its established operating limit, the control device efficiency is determined to be zero.

(x) *Organic HAP emission rate based on solids applied for the 12-month compliance period, $L_{ANNUAL}$.* If demonstrating compliance with the organic HAP emission rate based on solids applied for the 12-month compliance period, calculate the organic HAP emission rate based on solids applied, $L_{ANNUAL}$, for the 12-month compliance period using Equation 6 of this section.

(xi) *Compare actual performance to performance required by compliance*

*option.* The affected source is in compliance with § 63.5120(a) if each oxidizer is operated such that the average operating parameter value is greater than the operating parameter value established in § 63.5150(a)(3) for each 3-hour period, and each capture system operating parameter average value is greater than or less than (as appropriate) the operating parameter value established in § 63.5150(a)(4) for each 3-hour period; and the requirement in either paragraph (f)(1)(xi)(A) or (B) of this section is met.

(A) The overall organic HAP control efficiency, R, is 98 percent or greater for each; or

(B) The organic HAP emission rate based on solids applied, $L_{ANNUAL}$, is 0.046 kg organic HAP per liter solids applied or less for the 12-month compliance period.

(2) *Continuous emission monitoring of control device performance.* Use continuous emission monitors, conduct an initial performance test of capture efficiency, and continuously monitor a site specific operating parameter to ensure that capture efficiency is maintained. Compliance must be demonstrated in accordance with paragraph (e)(2) of this section.

(g) *Combination of capture and control.* You must demonstrate compliance according to the procedures in paragraphs (g)(1) through (8) of this section if both solvent recovery and oxidizer control devices, one or more never controlled coil coating stations, or one or more intermittently controllable coil coating stations are operated; or more than one compliance procedure is used.

(1) *Solvent recovery system using liquid/liquid material balance compliance demonstration.* For each solvent recovery system used to control one or more work stations for which you choose to comply by means of a liquid-liquid material balance, you must determine the organic HAP emissions each month of the 12-month compliance period for those work stations controlled by that solvent recovery system according to either paragraph (g)(1)(i) or (ii) of this section:

(i) In accordance with paragraphs (e)(1)(i) through (iii) and (e)(1)(v) through (viii) of this section if the work stations controlled by that solvent recovery system are only always-controlled work stations; or

(ii) In accordance with paragraphs (e)(1)(ii) through (iii), (e)(1)(v) through (vi), and (h) of this section if the work stations controlled by that solvent recovery system include one or more never-controlled or intermittently-controllable work stations.

(2) *Solvent recovery system using performance test and continuous monitoring compliance demonstration.* For each solvent recovery system used to control one or more coil coating stations for which you choose to comply by means of an initial test of capture efficiency, continuous emission monitoring of the control device, and continuous monitoring of a capture system operating parameter, each month of the 12-month compliance period you must meet the requirements of paragraphs (g)(2)(i) and (ii) of this section:

(i) For each capture system delivering emissions to that solvent recovery system, monitor an operating parameter established in § 63.5150(a)(4) to ensure that capture system efficiency is maintained; and

(ii) Determine the organic HAP emissions for those work stations served by each capture system delivering emissions to that solvent recovery system according to either paragraph (g)(2)(ii)(A) or (B) of this section:

(A) In accordance with paragraphs (e)(2)(i) through (iii) and (e)(2)(v) through (viii) of this section if the work stations served by that capture system are only always-controlled coil coating stations; or

(B) In accordance with paragraphs (e)(2)(i) through (iii), (e)(2)(v) through (vii), and (h) of this section if the work stations served by that capture system include one or more never-controlled or intermittently-controllable work stations.

(3) *Oxidizer using performance test and continuous monitoring of operating parameters compliance demonstration.* For each oxidizer used to control emissions from one or more work stations for which you choose to demonstrate compliance through performance tests of capture efficiency, control device efficiency, and continuing compliance through continuous monitoring of capture system and control device operating parameters, each month of the 12-month compliance period you must meet the requirements of paragraphs (g)(3)(i) through (iii) of this section:

(i) Monitor an operating parameter established in § 63.5150(a)(3) to ensure that control device destruction or removal efficiency is maintained; and

(ii) For each capture system delivering emissions to that oxidizer, monitor an operating parameter established in § 63.5150(a)(4) to ensure capture efficiency; and

(iii) Determine the organic HAP emissions for those work stations served by each capture system delivering emissions to that oxidizer according to either paragraph (g)(3)(iii)(A) or (B) of this section:

(A) In accordance with paragraphs (f)(1)(i) through (v) and (ix) of this section if the work stations served by that capture system are only always-controlled work stations; or

(B) In accordance with paragraphs (f)(1)(i) through (v), (ix), and (h) of this section if the work stations served by that capture system include one or more never-controlled or intermittently-controllable work stations.

(4) *Oxidizer using continuous emission monitoring compliance demonstration.* For each oxidizer used to control emissions from one or more work stations for which you choose to demonstrate compliance through an initial capture efficiency test, continuous emission monitoring of the control device, and continuous monitoring of a capture system operating parameter, each month of the 12-month compliance period you must meet the requirements in paragraphs (g)(4)(i) and (ii) of this section:

(i) For each capture system delivering emissions to that oxidizer, monitor an operating parameter established in § 63.5150(a)(4) to ensure capture efficiency; and

(ii) Determine the organic HAP emissions for those work stations served by each capture system delivering emissions to that oxidizer according to either paragraph (g)(4)(ii)(A) or (B) of this section:

(A) In accordance with paragraphs (e)(2)(i) through (iii) and (e)(2)(v) through (viii) of this section if the work stations served by that capture system are only always-controlled work stations; or

(B) In accordance with paragraphs (e)(2)(i) through (iii), (e)(2)(v) through (vii), and (h) of this section if the work stations served by that capture system include one or more never-controlled or intermittently-controllable work stations.

(5) *Uncontrolled work stations.* For uncontrolled work stations, each month of the 12-month compliance period you must determine the organic HAP applied on those work stations using Equation 9 of this section. The organic HAP emitted from an uncontrolled work station is equal to the organic HAP applied on that work station:

$$H_m = \sum_{A=1}^{x} \left( \sum_{i=1}^{p} C_{hi} M_{Ai} + \sum_{j=1}^{q} C_{hij} M_{Aij} \right) \qquad \text{(Eq. 9)}$$

Where:

$H_m$=facility total monthly organic HAP applied on uncontrolled coil coating stations, kg.

$C_{hi}$=organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg.

$M_{Ai}$=mass of coating material, i, applied on work station, A, in a month, kg.

$C_{hij}$=organic HAP content of solvent, j, added to coating material, i, expressed as a weight fraction, kg/kg.

$M_{Aij}$=mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, added to solids-containing coating material, i, applied on work station, A, in a month, kg.

x=number of uncontrolled work stations in the facility.

p=number of different coating materials applied in a month.

q=number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(6) If demonstrating compliance with the organic HAP emission rate based on solids applied, each month of the 12-month compliance period you must determine the solids content of each coating material applied during the month following the procedure in § 63.5160(c).

(7) *Organic HAP emitted.* You must determine the organic HAP emissions for the affected source for each 12-month compliance period by summing all monthly organic HAP emissions calculated according to paragraphs (g)(1), (g)(2)(ii), (g)(3)(iii), (g)(4)(ii), and (g)(5) of this section.

(8) *Compare actual performance to performance required by compliance option.* The affected source is in compliance with § 63.5120(a) for the 12-month compliance period if all operating parameters required to be monitored under paragraphs (g)(2) through (4) of this section were maintained at the values established in § 63.5150; and it meets the requirement in either paragraph (g)(8)(i) or (ii) of this section.

(i) The total mass of organic HAP emitted by the affected source was not more than 0.046 kg HAP per liter of solids applied for the 12-month compliance period; or

(ii) The total mass of organic HAP emitted by the affected source was not more than 2 percent of the total mass of organic HAP applied by the affected source each month. You must determine the total mass of organic HAP applied by the affected source in each month of the 12-month compliance period using Equation 9 of this section.

(h) *Organic HAP emissions from intermittently-controllable or never-controlled coil coating stations.* If you have been expressly referenced to this paragraph by paragraphs (g)(1)(ii), (g)(2)(ii)(B), (g)(3)(iii)(B), or (g)(4)(ii)(B) of this section for calculation procedures to determine organic HAP emissions, you must for your intermittently-controllable or never-controlled work stations meet the requirements of paragraphs (h)(1) through (6) of this section:

(1) Determine the sum of the mass of all solids-containing coating materials which are applied on intermittently-controllable work stations in bypass mode, and the mass of all solids-containing coating materials which are applied on never-controlled coil coating stations during each month of the 12-month compliance period, $M_{Bi}$.

(2) Determine the sum of the mass of all solvents, thinners, reducers, diluents, and other nonsolids-containing coating materials which are applied on intermittently-controllable work stations in bypass mode, and the mass of all solvents, thinners, reducers, diluents and other nonsolids-containing coating materials which are applied on never-controlled work stations during each month of the 12-month compliance period, $M_{Bj}$.

(3) Determine the sum of the mass of all solids-containing coating materials which are applied on intermittently-controllable work stations in controlled mode, and the mass of all solids-containing coating materials which are applied on always-controlled work stations during each month of the 12-month compliance period, $M_{Ci}$.

(4) Determine the sum of the mass of all solvents, thinners, reducers, diluents, and other nonsolids-containing coating materials which are applied on intermittently-controllable work stations in controlled mode, and the mass of all solvents, thinners, reducers, diluents, and other nonsolids-containing coating materials which are applied on always-controlled work stations during each month of the 12-month compliance period, $M_{Cj}$.

(5) *Liquid-liquid material balance calculation of HAP emitted.* For each work station or group of work stations for which you use the provisions of paragraph (g)(1)(ii) of this section, you must calculate the organic HAP emitted during the month using Equation 10 of this section:

$$H_e = \left[ \sum_{i=1}^{p} M_{Ci} C_{hi} + \sum_{j=1}^{q} M_{Cj} C_{hj} \right] \left[ 1 - \frac{\sum_{k=1}^{s} M_{kvr}}{\sum_{i=1}^{p} M_{Ci} C_{vi} + \sum_{j=1}^{q} M_{Cj}} \right] + \left[ \sum_{i=1}^{p} M_{Bi} C_{hi} + \sum_{j=1}^{q} M_{Bj} C_{hj} \right] \qquad \text{(Eq. 10)}$$

Where:

$H_e$ = total monthly organic HAP emitted, kg.

$M_{ci}$= sum of the mass of solids-containing coating material, i, applied on intermittently-controllable work stations operating in controlled mode and the mass of solids-containing coating material, i, applied on always-controlled work stations, in a month, kg.

$C_{hi}$ = organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg.

$M_{cj}$ = sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, applied on intermittently-controllable work stations operating in controlled mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, applied on always-controlled work stations in a month, kg.

$C_{hj}$ = organic HAP content of solvent, j, expressed as a weight fraction, kg/kg.

$M_{kvr}$ = mass of volatile matter recovered in a month by solvent recovery device, k, kg.

$C_{vi}$ = volatile matter content of coating material, i, expressed as a weight fraction, kg/kg.

$M_{Bi}$ = sum of the mass of solids-containing coating material, i, applied on intermittently-controllable work stations operating in bypass mode and the mass of solids-containing coating material, i, applied on never-controlled work stations, in a month, kg.

$M_{Bj}$ = sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, applied on intermittently-controllable work stations operating in bypass mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, applied on never-controlled work stations, in a month, kg.

p = number of different coating materials applied in a month.

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

s = number of solvent recovery devices used to comply with the standard of § 63.5120 of this subpart, in the facility.

(6) *Control efficiency calculation of HAP emitted.* For each work station or group of work stations for which you use the provisions of paragraphs (g)(2)(ii)(B), (g)(3)(iii)(B), or (g)(4)(ii)(B) of this section, you must calculate the organic HAP emitted during the month, $H_e$, using Equation 11 of this section:

$$e = \sum_{A=1}^{w_i}\left[\left(\sum_{i=1}^{p} M_{Ci}C_{hi} + \sum_{j=1}^{q} M_{Cj}C_{hj}\right)\left(1 - DRE_K CE_A\right)\right] + \left[\sum_{i=1}^{p} M_{Bi}C_{hi} + \sum_{j=1}^{q} M_{Bj}C_{hj}\right] \qquad \text{(Eq. 11)}$$

Where:

$H_e$ = total monthly organic HAP emitted, kg.

$M_{ci}$ = sum of the mass of solids-containing coating material, i, applied on intermittently-controllable work stations operating in controlled mode and the mass of solids-containing coating material, i, applied on always-controlled work stations, in a month, kg.

$C_{hi}$ = organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg.

$M_{cj}$ = sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, applied on intermittently-controllable work stations operating in controlled mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, applied on always-controlled work stations in a month, kg.

$C_{hj}$ = organic HAP content of solvent, j, expressed as a weight fraction, kg/kg.

$DRE_k$ = organic volatile matter destruction or removal efficiency of control device, k, percent.

$CE_A$ = organic volatile matter capture efficiency of the capture system for work station, A, percent.

$M_{Bi}$ = sum of the mass of solids-containing coating material, i, applied on intermittently-controllable work stations operating in bypass mode and the mass of solids-containing coating material, i, applied on never-controlled work stations, in a month, kg.

$M_{Bj}$ = sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, applied on intermittently-controllable work stations operating in bypass mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, applied on never-controlled work stations, in a month, kg.

$w_i$ = number of intermittently-controllable work stations in the facility.

p = number of different coating materials applied in a month.

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(i) *Capture and control system compliance demonstration procedures using a CPMS for a coil coating line.* If you use an add-on control device, to demonstrate initial compliance for each capture system and each control device through performance tests and continuing compliance through continuous monitoring of capture system and control device operating parameters, you must meet the requirements in paragraphs (i)(1) through (3) of this section.

(1) Conduct an initial performance test to determine the control device destruction or removal efficiency, DRE, using the applicable test methods and procedures in § 63.5160(d).

(2) Determine the emission capture efficiency, CE, in accordance with § 63.5160(e).

(3) Whenever a coil coating line is operated, continuously monitor the operating parameters established according to § 63.5150(a)(3) and (4) to ensure capture and control efficiency.

## Reporting and Recordkeeping

### § 63.5180 What reports must I submit?

(a) Submit the reports specified in paragraphs (b) through (i) of this section to the EPA Regional Office that serves the State or territory in which the affected source is located and to the delegated State agency:

(b) You must submit an initial notification required in § 63.9(b).

(1) Submit an initial notification for an existing source no later than 2 years after June 10, 2002.

(2) Submit an initial notification for a new or reconstructed source as required by § 63.9(b).

(3) For the purpose of this subpart, a title V permit application may be used in lieu of the initial notification required under § 63.9(b), provided the same information is contained in the permit application as required by § 63.9(b), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA.

(4) Submit a title V permit application used in lieu of the initial notification required under § 63.9(b) by the same due dates as those specified in paragraphs (b)(1) and (2) of this section for the initial notifications.

(c) You must submit a Notification of Performance Test as specified in §§ 63.7 and 63.9(e) if you are complying with the emission standard using a control device. This notification and the site-specific test plan required under § 63.7(c)(2) must identify the operating parameter to be monitored to ensure that the capture efficiency measured during the performance test is maintained. You may consider the operating parameter identified in the site-specific test plan to be approved unless explicitly disapproved, or unless comments received from the Administrator require monitoring of an alternate parameter.

(d) You must submit a Notification of Compliance Status as specified in § 63.9(h). You must submit the Notification of Compliance Status no later than 30 calendar days following the end of the initial 12-month compliance period described in § 63.5130.

(e) You must submit performance test reports as specified in § 63.10(d)(2) if you are using a control device to comply with the emission standards and you have not obtained a waiver from the performance test requirement.

(f) You must submit start-up, shutdown, and malfunction reports as specified in § 63.10(d)(5) if you use a control device to comply with this subpart.

(1) If your actions during a start-up, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are not completely consistent with the

procedures specified in the source's start-up, shutdown, and malfunction plan specified in § 63.6(e)(3), you must state such information in the report. The start-up, shutdown, or malfunction report will consist of a letter containing the name, title, and signature of the responsible official who is certifying its accuracy, that will be submitted to the Administrator.

(2) Separate start-up, shutdown, or malfunction reports are not required if the information is included in the report specified in paragraph (g) of this section.

(g) You must submit semi-annual compliance reports containing the information specified in paragraphs (g)(1) and (2) of this section.

(1) Compliance report dates.

(i) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.5130(a) and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.5130(a).

(ii) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in § 63.5130(a).

(iii) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iv) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(v) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or part 71, and the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (g)(1)(i) through (iv) of this section.

(2) The semi-annual compliance report must contain the following information:

(i) Company name and address.

(ii) Statement by a responsible official with that official's name, title, and signature, certifying the accuracy of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31. Note that the information reported for each of the 6 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

(iv) Identification of the compliance option or options specified in Table 1 to § 63.5170 that you used on each coating operation during the reporting period. If you switched between compliance options during the reporting period, you must report the beginning dates you used each option.

(v) A statement that there were no deviations from the standards during the reporting period, and that no CEMS were inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.

(h) You must submit, for each deviation occurring at an affected source where you are not using CEMS to comply with the standards in this subpart, the semi-annual compliance report containing the information in paragraphs (g)(2)(i) through (iv) of this section and the information in paragraphs (h)(1) through (3) of this section:

(1) The total operating time of each affected source during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable, and the corrective action taken.

(3) Information on the number, duration, and cause for monitor downtime incidents (including unknown cause other than downtime associated with zero and span and other daily calibration checks, if applicable).

(i) You must submit, for each deviation occurring at an affected source where you are using CEMS to comply with the standards in this subpart, the semi-annual compliance report containing the information in paragraphs (g)(2)(i) through (iv) of this section, and the information in paragraphs (i)(1) through (12) of this section:

(1) The date and time that each malfunction started and stopped.

(2) The date and time that each CEMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date and time that each CEMS was out-of-control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of start-up, shutdown, or malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to start-up, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CEMS downtime during the reporting period, and the total duration of CEMS downtime as a percent of the total source operating time during that reporting period.

(8) A breakdown of the total duration of CEMS 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.

(9) A brief description of the metal coil coating line.

(10) The monitoring equipment manufacturer(s) and model number(s).

(11) The date of the latest CEMS certification or audit.

(12) A description of any changes in CEMS, processes, or controls since the last reporting period.

**§ 63.5190 What records must I maintain?**

(a) You must maintain the records specified in paragraphs (a) and (b) of this section in accordance with § 63.10(b)(1):

(1) Records of the coating lines on which you used each compliance option and the time periods (beginning and ending dates and times) you used each option.

(2) Records specified in § 63.10(b)(2) of all measurements needed to demonstrate compliance with this subpart, including:

(i) Continuous emission monitor data in accordance with § 63.5150(a)(2);

(ii) Control device and capture system operating parameter data in accordance with § 63.5150(a)(1), (3), and (4);

(iii) Organic HAP content data for the purpose of demonstrating compliance in accordance with § 63.5160(b);

(iv) Volatile matter and solids content data for the purpose of demonstrating compliance in accordance with § 63.5160(c);

(v) Overall control efficiency determination or alternative outlet HAP concentration using capture efficiency tests and control device destruction or removal efficiency tests in accordance with § 63.5160(d), (e), and (f); and

(vi) Material usage, HAP usage, volatile matter usage, and solids usage and compliance demonstrations using these data in accordance with § 63.5170(a), (b), and (d);

(3) Records specified in § 63.10(b)(3); and

(4) Additional records specified in § 63.10(c) for each continuous monitoring system operated by the owner or operator in accordance with § 63.5150(a)(2).

(b) Maintain records of all liquid-liquid material balances that are performed in accordance with the requirements of § 63.5170.

## Delegation of Authority

### § 63.5200 What authorities may be delegated to the States?

(a) This subpart can be implemented and enforced by us, the EPA, or a delegated authority 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 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 section 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and not transferred to the State, local, or tribal agency.

(c) Authority which will not be delegated to States, local, or tribal agencies:

(1) Approval of alternatives to the emission limitations in § 63.5120;

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.5160;

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.5150; and

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in §§ 63.5180 and 63.5190.

### §§ 63.5201—63.5209 [Reserved]

## Tables to Subpart SSSS of Part 63

If you are required to comply with operating limits by § 63.5121, you must comply with the applicable operating limits in the following table:

TABLE 1 TO SUBPART SSSS OF PART 63. OPERATING LIMITS IF USING ADD-ON CONTROL DEVICES AND CAPTURE SYSTEM

| For the following device . . . | You must meet the following operating limit . . . | And you must demonstrate continuous compliance with the operating limit by . . . |
|---|---|---|
| 1. thermal oxidizer | a. the average combustion temperature in any 3-hour period must not fall below the combustion temperature limit established according to § 63.5160(d)(3)(i). | i. collecting the combustion temperature data according to § 63.5150(a)(3);<br>ii. reducing the data to 3-hour block averages; and<br>iii. maintaining the 3-hour average combustion temperature at or above the temperature limit. |
| 2. catalytic oxidizer | a. the average temperature measured just before the catalyst bed in any 3-hour period must not fall below the limit established according to § 63.5160(d)(3)(ii); and either | i. collecting the temperature data according to § 63.5150(a)(3);<br>ii. reducing the data to 3-hour block averages; and<br>iii. maintaining the 3-hour average temperature before the catalyst bed at or above the temperature limit. |
| | b. ensure that the average temperature difference across the catalyst bed in any 3-hour period does not fall below the temperature difference limit established according to § 63.5160(d)(3)(ii); or | i. collecting the temperature data according to § 63.5150(a)(3);<br>ii. reducing the data to 3-hour block averages; and<br>iii. maintaining the 3-hour average temperature difference at or above the temperature difference limit. |
| | c. develop and implement an inspection and maintenance plan according to § 63.5160(d)(3)(ii). | maintaining an up-to-date inspection and maintenance plan, records of annual catalyst activity checks, records of monthly inspections of the oxidizer system, and records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection required by § 63.5160(d)(3)(ii), you must take corrective action as soon as practicable consistent with the manufacturer's recommendations. |
| 3. emission capture system | develop a monitoring plan that identifies operating parameter to be monitored and specifies operating limits according to § 63.5150(a)(4). | conducting monitoring according to the plan § 63.5150(a)(4). |

You must comply with the applicable General Provisions requirements according to the following table:

TABLE 2 TO SUBPART SSSS OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART SSSS

| General provisions reference | Applicable to subpart SSSS | Explanation |
|---|---|---|
| § 63.1(a)(1)–(4) | Yes. | |
| § 63.1(a)(5) | No | Reserved. |
| § 63.1(a)(6)–(8) | Yes. | |
| § 63.1(a)(9) | No | Reserved. |

TABLE 2 TO SUBPART SSSS OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART SSSS—Continued

| General provisions reference | Applicable to subpart SSSS | Explanation |
|---|---|---|
| § 63.1(a)(10)–(14) | Yes. | |
| § 63.1(b)(1) | No | Subpart SSSS specifies applicability. |
| § 63.1(b)(2)–(3) | Yes. | |
| § 63.1(c)(1) | Yes. | |
| § 63.1(c)(2) | Yes. | |
| § 63.1(c)(3) | No | Reserved. |
| § 63.1(c)(4) | Yes. | |
| § 63.1(c)(5) | Yes. | |
| § 63.1(d) | No | Reserved. |
| § 63.1(e) | Yes. | |
| § 63.2 | Yes | Additional definitions in subpart SSSS. |
| § 63.3(a)–(c) | Yes. | |
| § 63.4(a)(1)–(3) | Yes. | |
| § 63.4(a)(4) | No | Reserved. |
| § 63.4(a)(5) | Yes. | |
| § 63.4(b)–(c) | Yes. | |
| § 63.5(a)(1)–(2) | Yes. | |
| § 63.5(b)(1) | Yes. | |
| § 63.5(b)(2) | No | Reserved. |
| § 63.5(b)(3)–(6) | Yes. | |
| § 63.5(c) | No | Reserved. |
| § 63.5(d) | Yes | Only total HAP emissions in terms of tons per year are required for § 63.5(d)(1)(ii)(H). |
| § 63.5(e) | Yes. | |
| § 63.5(f) | Yes. | |
| § 63.6(a) | Yes. | |
| § 63.6(b)(1)–(5) | Yes. | |
| § 63.6(b)(6) | No | Reserved. |
| § 63.6(b)(7) | Yes. | |
| § 63.6(c)(1)–(2) | Yes. | |
| § 63.6(c)(3)–(4) | No | Reserved. |
| § 63.6(c)(5) | Yes. | |
| § 63.6(d) | No | Reserved. |
| § 63.6(e) | Yes | Provisions in § 63.6(e)(3) pertaining to startups, shutdowns, malfunctions, and CEMS only apply if an add-on control system is used. |
| § 63.6(f) | Yes. | |
| § 63.6(g) | Yes. | |
| § 63.6(h) | No | Subpart SSSS does not require continuous opacity monitoring systems (COMS). |
| § 63.6(i)(1)–(14) | Yes. | |
| § 63.6(i)(15) | No | Reserved. |
| § 63.6(i)(16) | Yes. | |
| § 63.6(j) | Yes. | |
| § 63.7 | Yes | With the exception of § 63.7(a)(2)(vii) and (viii), which are reserved. |
| § 63.8(a)(1)–(2) | Yes. | |
| § 63.8(a)(3) | No | Reserved. |
| § 63.8(a)(4) | Yes. | |
| § 63.8(b) | Yes. | |
| § 63.8(c)(1)–(3) | Yes | Provisions only apply if an add-on control system is used. |
| § 63.8(c)(4) | No. | |
| § 63.8(c)(5) | No | Subpart SSSS does not require COMS. |
| § 63.8(c)(6) | Yes | Provisions only apply if CEMS are used. |
| § 63.8(c)(7)–(8) | Yes. | |
| § 63.8(d)–(e) | Yes | Provisions only apply if CEMS are used. |
| § 63.8(f)(1)–(5) | Yes. | |
| § 63.8(f)(6) | No | Section 63.8(f)(6) provisions are not applicable because subpart SSSS does not require CEMS. |
| § 63.8(g)(1)–(4) | Yes. | |
| § 63.8(g)(5) | No. | |
| § 63.9(a) | Yes. | |
| § 63.9(b)(1) | Yes. | |
| § 63.9(b)(2) | Yes | With the exception that § 63.5180(b)(1) provides 2 years after the proposal date for submittal of the initial notification. |
| § 63.9(b)(3)–(5) | Yes. | |
| § 63.9(c)–(e) | Yes. | |
| § 63.9(f) | No | Subpart SSSS does not require opacity and visible emissions observations. |
| § 63.9(g) | No | Provisions for COMS are not applicable. |
| § 63.9(h)(1)–(3) | Yes. | |

TABLE 2 TO SUBPART SSSS OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART SSSS—Continued

| General provisions reference | Applicable to subpart SSSS | Explanation |
|---|---|---|
| § 63.9(h)(4) | No | Reserved. |
| § 63.9(h)(5)–(6) | Yes. | |
| § 63.9(i) | Yes. | |
| § 63.9(j) | Yes. | |
| § 63.10(a) | Yes. | |
| § 63.10(b)(1)–(3) | Yes | Provisions pertaining to startups, shutdowns, malfunctions, and maintenance of air pollution control equipment and to CEMS do not apply unless an add-on control system is used. Also, paragraphs (b)(2)(vi), (x), (xi), and (xiii) do not apply. |
| § 63.10(c)(1) | No. | |
| § 63.10(c)(2)–(4) | No | Reserved. |
| § 63.10(c)(5)–(8) | No. | |
| § 63.10(c)(9) | No | Reserved. |
| § 63.10(c)(10)–(15) | No. | |
| § 63.10(d)(1)–(2) | Yes. | |
| § 63.10(d)(3) | No | Subpart SSSS does not require opacity and visible emissions observations. |
| § 63.10(d)(4)–(5) | Yes. | |
| § 63.10(e) | No. | |
| § 63.10(f) | Yes. | |
| § 63.11 | Yes. | |
| § 63.12 | Yes. | |
| § 63.13 | Yes. | |
| § 63.14 | Yes | Subpart SSSS includes provisions for alternative ASTM and ASME test methods that are incorporated by reference. |
| § 63.15 | Yes. | |

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