WEST VIRGINIA
SECRETARY OF STATE
NATALIE E. TENNANT
ADMINISTRATIVE LAW DIVISION

Form #3

Do Not Mark In This Box

2011 JUL 29 AM 10:54
OFFICE OF SECRETARY OF STATE

NOTICE OF AGENCY APPROVAL OF A PROPOSED RULE AND FILING WITH THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

AGENCY: WV Department of Environmental Protection - Division of Air Quality TITLE NUMBER: 45

CITE AUTHORITY: W. Va. Code §22-5-4

AMENDMENT TO AN EXISTING RULE: YES X NO ____

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 45CSR34

TITLE OF RULE BEING AMENDED: Emission Standards for Hazardous Air Pollutants

IF NO, SERIES NUMBER OF RULE BEING PROPOSED: ____

TITLE OF RULE BEING PROPOSED: ____

THE ABOVE PROPOSED LEGISLATIVE RULE HAVING GONE TO A PUBLIC HEARING OR A PUBLIC COMMENT PERIOD IS HEREBY APPROVED BY THE PROMULGATING AGENCY FOR FILING WITH THE SECRETARY OF STATE AND THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE FOR THEIR REVIEW.

Authorized Signature

QUESTIONNAIRE

(Please include a copy of this form with each filing of your rule: Notice of Public Hearing or Comment Period; Proposed Rule, and if needed, Emergency and Modified Rule.)

DATE: July 29, 2011

TO: LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

FROM:(*Agency Name, Address & Phone No.*) West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, S.E.
Charleston, West Virginia 25304

LEGISLATIVE RULE TITLE: 45CSR34 - Emission Standards for Hazardous Air Pollutants

1. Authorizing statute(s) citation W. Va. Code §22-5-4

2. a. Date filed in State Register with Notice of Hearing or Public Comment Period:

June 10, 2011

b. What other notice, including advertising, did you give of the hearing?

Public Notice placed on Department of Environmental Protection's web site, distributed via the agency's mailing list, and in a Class I legal ad published in the Charleston Newspapers.

c. Date of Public Hearing(s) ***or*** Public Comment Period ended:

Public Hearing/Comment Period Ended - July 11, 2011 (close of hearing)

d. Attach list of persons who appeared at hearing, comments received, amendments, reasons for amendments.

Attached X No comments received _____

e. Date you filed in State Register the agency approved proposed Legislative Rule following public hearing: (be exact)

July 29, 2011

f. **Name, title, address and <u>phone/fax/e-mail numbers</u>** of agency person(s) to receive all *written correspondence* regarding this rule: (Please type)

John A. Benedict, Director
601 57th Street, S.E.
Charleston, WV 25304
Phone: (304) 926-0499 ext. 1966
Fax: (304) 926-0488
John.A.Benedict@wv.gov

g. **<u>IF DIFFERENT</u> FROM ITEM 'f'**, please give **Name, title, address and phone number(s)** of agency person(s) who wrote and/or has responsibility for the contents of this rule: (Please type)

See "f" above

3. If the statute under which you promulgated the submitted rules requires certain findings and determinations to be made as a condition precedent to their promulgation:

a. Give the date upon which you filed in the State Register a notice of the time and place of a hearing for the taking of evidence and a general description of the issues to be decided.

N/A

b. Date of hearing or comment period:

N/A

c. On what date did you file in the State Register the findings and determinations required together with the reasons therefor?

N/A

d. Attach findings and determinations and reasons:

Attached N/A

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

BRIEFING DOCUMENT

Rule Title: 45CSR34 - "Emission Standards for Hazardous Air Pollutants"

A. AUTHORITY: W.Va. Code §22-5-4

B. SUMMARY OF RULE:

This rule establishes and adopts national emission standards for hazardous air pollutants (NESHAP) and other regulatory requirements promulgated by the United States Environmental Protection Agency (U.S. EPA) pursuant to Section 112 of the federal Clean Air Act, as amended (CAA). This rule codifies general procedures and criteria to implement emission standards for stationary sources that emit, or have the potential to emit, one or more of the hazardous air pollutants set forth in Section 112(b) of the CAA, or one or more of the eight substances listed as hazardous air pollutants in 40 CFR §61.01(a). The rule incorporates by reference the NESHAP standards of 40 CFR Parts 61, 63 and 40 CFR Part 65 (Consolidated Federal Air Rule), to the extent referenced in 40 CFR Parts 61 and 63, promulgated as of June 1, 2011. The rule also adopts associated appendices, reference methods, performance specifications and other test methods which are appended to these standards and contained in 40 CFR Parts 61 and 63. Any person who constructs, reconstructs, modifies or operates any source subject to the provisions of 40 CFR Parts 61 or 63 must comply with the applicable NESHAPS and this rule.

C. STATEMENT OF CIRCUMSTANCES WHICH REQUIRE RULE:

As provided in 40 CFR §§61.04(b) and 63.12(b)(1), and because West Virginia has an approved Title V permit program, the Secretary therefore has the authority to implement and enforce national emission standards for hazardous air pollutants for stationary sources required to obtain a Title V permit under 40 CFR Parts 61 and 63, pursuant to Section 112 of the CAA. Promulgation of this rule is necessary for the State to fulfill its responsibilities under the CAA, and will enable the Department of Environmental Protection to continue to be the primary enforcement authority for NESHAP promulgated by U.S. EPA under 40 CFR Parts 61 and 63 as of June 1, 2011. Promulgation of this rule by the Legislature is necessary for the State to fulfill its responsibilities under the CAA. Revisions to the rule include general annual incorporation by reference updates and updated exclusions to adoption of standards.

The revised rule incorporates by reference the following source categories of new or revised NESHAP standards promulgated as of June 1, 2011 for non-major area sources: Gold Mine Ore Processing and Production, Chemical Manufacturing Area Sources, Industrial, Commercial, and Institutional Boilers and Restructuring of the Stationary Source Audit Program.

The revised rule also incorporates by reference the following source categories of new or revised NESHAP standards promulgated as of June 1, 2011 for major sources: Portland Cement Manufacturing, Reciprocating Internal Combustion Engines, Petroleum Refineries, Restructuring of the Stationary Source Audit Program, Group I Polymers and Resins, Marine Tank Vessel Loading Operations, Pharmaceuticals Production, and the Printing and Publishing Industry.

The following source categories of revised or newly promulgated NESHAPS affecting non-major area sources of hazardous air pollutants are being excluded from incorporation by reference: Reciprocating Internal Combustion Engines, Prepared Feeds Manufacturing, Gasoline Distribution Bulk Terminals, Bulk Plants, Pipeline Facilities, and Gasoline Dispensing Facilities. No additional funding has been provided by U.S. EPA to implement these new federal area source air toxics rules. Further, DAQ considers these standards to be resource-intensive and costly to implement, as a practical matter, without achieving commensurate air quality benefits. West Virginia is one of several states in Region III which are adopting some, but not all, of these standards due to the previous mentioned reasons. U.S. EPA Regional offices will be implementing those standards not adopted by the States, thereby providing a measure of regulatory certainty and consistency.

D. FEDERAL COUNTERPART REGULATIONS - INCORPORATION BY REFERENCE/DETERMINATION OF STRINGENCY:

A federal counterpart to this proposed rule exists. In accordance with the Secretary's recommendation, and with stated exception, the Division of Air Quality proposes that the rule incorporate by reference the federal counterparts. Because the proposed rule incorporates by reference the federal counterpart, no determination of stringency is required.

E. CONSTITUTIONAL TAKINGS DETERMINATION:

In accordance with W.Va. Code §§22-1A-1 and 3(c), the Secretary has determined that this rule will not result in taking of private property within the meaning of the Constitutions of West Virginia and the United States of America.

F. CONSULTATION WITH THE ENVIRONMENTAL PROTECTION ADVISORY COUNCIL:

At its June 2, 2011 meeting, the Environmental Protection Advisory Council reviewed and discussed this rule. (See attached minutes for Council's discussion).

ENVIRONMENTAL PROTECTION ADVISORY COUNCIL

MEETING MINUTES
June 2, 2011

I. CALL TO ORDER

Kristin A. Boggs, Ex Officio Chair designated by Secretary Randy Huffman, called to order the regular meeting of the DEP Advisory Council at 1:35 p.m. on June 2, 2011 at the headquarters of the West Virginia Department of Environmental Protection, 601 57th Street Southeast, Charleston, West Virginia. Agendas were distributed.

II. ROLL CALL

Members present: Lisa Dooley, Jackie Hallinan, Ted Hapney, Larry Harris, Bill Raney, and Rick Roberts. Karen Price was absent.

The meeting was also attended by the following DEP personnel and invited guests: Lisa A. McClung, Deputy Cabinet Secretary; Kathy Cosco, Chief Communication Officer; James L. Mason, Division of Air Quality; Donald W. Martin, Division of Land Restoration; Charles W. Armstead, Division of Water & Waste Management; and David L. Johnston, Division of Water & Waste Management. Sherrie A. Armstrong and John Ailes of Bailey & Glasser attended the meeting at Ms. Boggs' invitation to fulfill Dr. Harris' request at the March 17 meeting that the DEP provide some information on the implications of the *West Virginia Highlands Conservancy v. Huffman* decision.

Also in attendance were the following members of the public: Don Garvin of the Ohio Valley Environmental Coalition; Don Gasper of Trout Unlimited; and Rosa Rose.

III. OLD BUSINESS

Minutes of the March 17, 2011 Meeting. The minutes were emailed and provided to Council in hard copy. Mr. Raney moved for approval of the minutes, Ms. Dooley seconded the motion, and it was carried by acclamation of Council.

IV. SPECIAL PRESENTATION

Ms. Armstrong, who – along with Benjamin L. Bailey - represented the DEP in the Fourth Circuit Court of Appeals in *West Virginia Highlands Conservancy v. Huffman* (the "special rec" or "bond forfeiture" cases), gave a brief overview of the possible consequences of the decision rendered in that case. John Ailes of Bailey & Glasser also participated in the presentation. In sum, an unintended consequence of this ruling could be that watershed groups, which volunteer their time and resources to clean up pre-law mine sites, could be required to get NPDES permits.

Dr. Harris suggested that a way out for Good Samaritan watershed groups would be to partner with the State and let the State obtain the NPDES permits. Mr. Ailes then opined

that the chilling effect on beneficial partnerships between citizen groups and the regulatory agencies it is one of the unintended consequences of the ruling and that this is an opportunity for the DEP to look into rulemaking to address some of these issues.

Ms. Dooley asked if the agency could waive the permit application fees for Good Samaritan groups like some municipalities waive business license fees, and DEP did not foreclose that possibility. That is one of the issues that could be addressed in future rulemaking.

Mr. Roberts asked if this ruling would apply to AML, and Ms. Armstrong answered that we do not think so, since AML is governed by a separate set of rules.

Mr. Raney asked if this ruling could apply to other industrial discharges, and Ms. Armstrong answered no.

V. PROPOSED 2012 LEGISLATIVE RULES

Division of Air Quality

- 45 CSR 8 – *Ambient Air Quality Standards* – Annual incorporation by reference amendments to the NAAQS, including Primary National Ambient Air Quality standard for sulfur dioxide.

- 45 CSR 14 – *Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration* – Revisions to the rule incorporate changes to the federal counterpart, "Prevention of Significant Deterioration for Particulate Matter Less Than 2.5 Micrometers – Increments, Significant Impact Levels and Significant Monitoring Concentration."

  - Dr. Harris asked the following questions regarding this rule: What is a PAL? Are there any in West Virginia? Would it apply to the TransGas facility in Mingo County? On behalf of the Division of Air Quality, James L. Mason answered that a PAL is a plant-wide applicability unit, and it may apply to the TransGas facility, but TransGas would have to apply for it. Mr. Mason was unsure if there were any PALs in West Virginia, but he advised the Council he would get back to them with a response.[1]

- 45 CSR 16 – *Standards of Performance for New Stationary Sources* – Annual incorporation by reference amendments to the NSPS.

[1] Mr. Mason has determined since the June 2 meeting that, because the TransGas facility is a synthetic minor source, 45CSR14 did not apply to the permitting process. If TransGas were to become a major source, 45CSR14 may then apply. Mr. Mason also determined that there are no permitted PALs in West Virginia at this time.

- ❖ 45 CSR 18 – *Combustion of Solid Waste* – The revised rule incorporates by reference the amended Standards of Performance for New Commercial and Industrial Solid Waste Incineration Units and sets forth emission guidelines for existing commercial and industrial solid waste incineration units. The new CISWI language was pulled from the proposed rule based on EPA's recent delay of the rule's effective date.

- ❖ 45 CSR 19 – *Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution Which Cause or Contribute to Nonattainment* – Revisions to the rule include new significant impact levels promulgated by EPA.

  - ♦ Mr. Raney inquired whether Marcellus pads fall under this rule. The short answer, as provided by Mr. Garvin and Deputy Secretary McClung, is no.

- ❖ 45 CSR 25 – *Control of Air Pollution from Hazardous Waste Treatment, Storage and Disposal Facilities* – Revisions to the rule include annual incorporation-by-reference updates.

- ❖ 45 CSR 30 – *Requirements for Operating Permits* – Revisions to the rule implement the provisions of EPA's final Greenhouse Gas Tailoring Rule. Language is added that is intended to rescind elements of the Tailoring Rule if a court, Congress, EPA or the President finds that GHGs are not subject to regulation. In order to effect the provisions of the Tailoring Rule as soon as practicable, and in accordance with EPA-mandated timelines, West Virginia has adopted this rule as an emergency rule.

  - ♦ Dr. Harris asked what an alternative operating scenario is, and Mr. Mason explained that, once an operating system is approved, the permittee can propose something different and, if it is allowed by the rule, the Secretary can approve it as an alternative operating scenario. Dr. Harris then asked what "approved replicatable methodology" is, and Mr. Mason clarified that approved replicatable methodology ("ARM") goes along with alternative operating scenarios: we want reproducible science, and the ARM is used to prove how the permittee plans to meet its permit limits.

  - ♦ Mr. Mason also clarified for Council that the rescission language amended into the rule in the emergency rulemaking process is only applicable to greenhouse gases and not any other pollutant.

- ❖ 45 CSR 34 – *Emission Standards for Hazardous Air Pollutants* – Annual incorporation-by-reference revisions to the Hazardous Air Pollutant rule.

- ❖ 45 CSR 35 – *Requirements for Determining Conformity of General Federal Actions to Applicable Air Quality Implementation Plans (General Conformity)* – This revised rule incorporates by reference the following provisions of 40 CFR 93: Revisions to the General Conformity Regulations.

- ❖ 45 CSR 42 – *Greenhouse Gas Emissions Inventory Program* – DAQ is proposing to repeal this rule because on October 30, 2009, EPA promulgated standardized greenhouse

reporting requirements, "Mandatory Reporting of Greenhouse Gases." Because 45 CSR 42 was promulgated before the EPA finalized its mandatory greenhouse gas reporting requirements, and the rule's approach to greenhouse gas reporting was significantly different from EPA's final approach, the DAQ has determined that sources subject to EPA's Mandatory Reporting of Greenhouse Gases shall not be also subject to the differing requirements of this State rule. To further eliminate this conflict, the DEP will take steps to amend W. Va. Code § 22-5-19, which authorizes the Secretary to propose legislative rules establishing a Greenhouse Gas Inventory Program. Such amendment to the Code will provide for the Cabinet Secretary to allow reporting under EPA's Mandatory Reporting of Greenhouse Gases to satisfy greenhouse gas reporting requirements in West Virginia.

DIVISION OF LAND RESTORATION

- 60 CSR 3 – *Voluntary Remediation and Redevelopment Rule* – This rule is being revised to update the *de minimus* clean-up standards. This change is necessary, because the toxicological profiles for many chemicals in the federal IRIS database have been revised, which necessitates changes to the *de minimus* table.

Division of Water & Waste Management

- 33 CSR 1 – *Solid Waste Management Rule* – Revisions to this rule are to add the definition of "covered electronic devices" to the list of defined terms and to add covered electronic devices as an unacceptable waste banned from disposal in the State's landfills. This revision is necessary due to the passage of Senate Bill 298 on March 12, 2010, which amended and reenacted W. Va. Code § 22-15A-25 to ban certain electronic devices from landfill disposal.

- 33 CSR 20 – *Hazardous Waste Management Rule* – Revisions to the rule include annual incorporation-by-reference updates from the federal counterpart. Further, DWWM proposes to amend the rule to reflect that the authority it previously transferred to the Division of Highways to regulate hazardous waste on the highways has been transferred by statute to the Public Service Commission when the Weights & Measures Section was transferred from the DOH to the PSC.

Dr. Harris moved that the proposed 2012 Legislative rules be approved for submission to the Legislature; Mr. Hapney seconded the motion; Mr. Raney objected only on the basis that the DAQ rules are complex and difficult to understand, and he wants to make sure DEP is not simply adopting federal recommendations without adequate consideration to the needs of the economy of West Virginia. The motion to approve the rule was then carried by acclamation of Council.

VI. OTHER BUSINESS

- Ms. Hallinan advised the DEP to keep pushing Marcellus regulations.

- Dr. Harris expressed serious concerns about the Marcellus permits issued in Monongalia County close to a public drinking water intake. Specifically, he opined that allowing natural gas drilling so close to a water intake is the most irresponsible siting he has ever seen and that once there has been accident, it is too late to do anything. He advised DEP that Morgantown is considering a moratorium on Marcellus drilling. He finally advised DEP that there should be a public comment period on Marcellus well work permits.

- The next Advisory Council meeting will be **Thursday, September 22, 2011 at 1:30 p.m.**

VII. ADJOURNMENT

Mr. Hapney moved that the meeting be adjourned, Ms. Hallinan seconded the motion, Dr. Harris objected, based on Ms. Boggs' failure to allow public comment at the meeting, and the motion carried by acclamation of Council. The meeting was adjourned at 2:30 p.m.

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: 45CSR34 - "Emission Standards for Hazardous Air Pollutants"

Type of Rule: ___X___ Legislative _____ Interpretive _____ Procedural

Agency: Division of Air Quality

Address: 601 57th Street SE
Charleston, WV 25304

Phone Number: (304)926-0475 Email: tammy.l.mowrer@wv.gov

Fiscal Note Summary

Summarize in a clear and concise manner what impact this measure will have on costs and revenues of state government.

No impact above that resulting from currently applicable federal emission standards.

Fiscal Note Detail

Show over-all effect in Item 1 and 2 and, in Item 3, give an explanation of Breakdown by fiscal year, including long-range effect.

FISCAL YEAR

Effect of Proposal	2012 Increase/Decrease (use "-")	2013 Increase/Decrease (use "-")	Fiscal Year (Upon Full Implementation)
1. Estimated Total Cost	$ 0	$ 0	$ 0
Personal Services	0	0	0
Current Expenses	0	0	0
Repairs & Alterations	0	0	0
Assets	0	0	0
Equipment	0	0	0
Other	0	0	0
2. Estimated Total Revenues	0	0	0

Rule Title: 45CSR34 - "Emission Standards for Hazardous Air Pollutants"

3. **Explanation of above estimates (including long-range effect):**
Please include any increase or decrease in fees in your estimated total revenues.

Costs anticipated to be incurred in the implementation of federal rules promulgated under 40 CFR Parts 61 and 63 as of June 1, 2011 are included in prior cost estimates prepared for state implementation of Title V of the Clean Air Act, as amended, under 45CSR30. Full Title V program approval was issued by the U.S. Environmental Protection Agency on November 19, 2001.

MEMORANDUM

Please identify any areas of vagueness, technical defects, reasons the proposed rule **would not** have a fiscal impact, and/or any special issues **not** captured elsewhere on this form.

Date: June 1, 2011

John A. Benedict, Director

TITLE 45
LEGISLATIVE RULE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY

SERIES 34
EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

§45-34-1. General.

1.1. Scope. -- This rule establishes and adopts a program of national emission standards for hazardous air pollutants (NESHAPS) and other regulatory requirements promulgated by the United States Environmental Protection Agency pursuant to 40 CFR Parts 61, 63 and section 112 of the federal Clean Air Act, as amended (CAA). This rule codifies general procedures and criteria to implement emission standards for stationary sources that emit (or have the potential to emit) one or more of the eight substances listed as hazardous air pollutants in 40 CFR §61.01(a), or one or more of the substances listed as hazardous air pollutants in section 112(b) of the CAA. The Secretary hereby adopts these standards by reference. The Secretary also adopts associated reference methods, performance specifications and other test methods which are appended to these standards.

1.2. Authority. -- W.Va. Code §22-5-4.

1.3. Filing Date. -- ~~June 16, 2011~~.

1.4. Effective Date. -- ~~June 16, 2011~~.

1.5. Incorporation by Reference. -- Federal Counterpart Regulation. The Secretary has determined that a federal counterpart regulation exists, and in accordance with the Secretary's recommendation, with limited exception, this rule incorporates by reference 40 CFR Parts 61, 63 and 65, to the extent referenced in 40 CFR Parts 61 and 63, effective ~~June 1, 2010~~ June 1, 2011.

1.6. Former Rules. -- This legislative rule amends 45CSR34 - "Emission Standards for Hazardous Air Pollutants" which was filed ~~April 30, 2010~~ June 16, 2011, and which became effective ~~June 1, 2010~~ June 16, 2011.

§45-34-2. Definitions.

2.1. "Administrator" means the Administrator of the United States Environmental Protection Agency or his or her authorized representative.

2.2. "Clean Air Act" ("CAA") means 42 U.S.C. §7401 et seq.

2.3. "Hazardous air pollutant" means any air pollutant listed pursuant to 40 CFR §61.01(a) or section 112(b) of the CAA.

2.4. "Secretary" means the Secretary of the Department of Environmental Protection or other person

to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§22-1-6 or 22-1-8.

2.5. Other words and phrases used in this rule, unless otherwise indicated, shall have the meaning ascribed to them in 40 CFR Parts 61 and 63. Words and phrases not defined therein shall have the meaning given to them in federal Clean Air Act.

§45-34-3. Requirements.

3.1. No person may construct, reconstruct, modify, or operate, or cause to be constructed, reconstructed, modified, or operated any source subject to the provisions of 40 CFR Parts 61 and 63 which results or will result in a violation of this rule.

3.2. No person may construct or reconstruct any major source of hazardous air pollutants, unless the Secretary determines that the maximum achievable control technology emission limitation under 40 CFR Part 63 and this rule for new sources will be met.

3.3. The Secretary shall determine and apply case-by-case maximum achievable control technology standards to existing sources categorized by the Administrator pursuant to section 112(c)(1) of the CAA for which the Administrator has not promulgated emission standards in accordance with sections 112(d) and 112(e) of the CAA.

3.4. Prior to constructing, reconstructing or modifying any facility subject to this rule, the owner or operator shall obtain a permit in accordance with the applicable requirements of 45CSR13, 45CSR14, 45CSR19, 45CSR30 and this rule.

§45-34-4. Adoption of Standards.

4.1. The Secretary hereby adopts and incorporates by reference the provisions of 40 CFR Parts 61, 63 and 65, to the extent referenced in 40 CFR Parts 61 and 63, including any reference methods, performance specifications and other test methods which are appended to these standards and contained in 40 CFR Parts 61, 63 and 65, effective ~~June 1, 2010~~ June 1, 2011, for the purposes of implementing a program for emission standards for hazardous air pollutants, except as follows:

4.1.a. 40 CFR §§61.16 and 63.15 are amended to provide that information shall be available to the public in accordance with W.Va. Code §§22-5-1 et seq., 29B-1-1 et seq., and 45CSR31;

4.1.b. Subpart E of 40 CFR Part 63 and any provision related to section 112(r) of the CAA, notwithstanding any requirements of 45CSR30 shall be excluded;

4.1.c. Provisions under Subpart HH of 40 CFR Part 63 which apply to non-major area sources of hazardous air pollutants described in 40 CFR §63.760(b)(2) shall be excluded;

4.1.d. Provisions under Subpart ZZZZ of 40 CFR Part 63 which apply to non-major area sources of hazardous air pollutants described in 40 CFR §63.6585(c) and (d) shall be excluded;

4.1.e. Subparts DDDDDD, LLLLLL, OOOOOO, PPPPPP, QQQQQQ, TTTTTT, WWWWW, ZZZZZ, HHHHHH, BBBBBB, CCCCCC, WWWWWW, XXXXXX, YYYYYY, ZZZZZZ, AAAAAAA,

BBBBBBB, CCCCCCC, and DDDDDDD of 40 CFR Part 63 shall be excluded; and

4.1.f. Subparts B, H, I, K, Q, R, T, and W; Methods 111, 114, 115 and Appendix D and E of 40 CFR Part 61 shall be excluded.

§45-34-5. Secretary.

5.1. Any and all references in 40 CFR Parts 63 and 65 to the "Administrator" are amended to be the "Secretary" except as follows:

5.1.a. where the federal regulations specifically provide that the Administrator shall retain authority and not transfer authority to the Secretary;

5.1.b. where provisions occur which refer to:

5.1.b.1. alternate means of emission limitations;

5.1.b.2. alternate control technologies;

5.1.b.3. innovative technology waivers;

5.1.b.4. alternate test methods;

5.1.b.5. alternate monitoring methods;

5.1.b.6. waivers/adjustments to recordkeeping and reporting;

5.1.b.7. emissions averaging; or

5.1.b.8. applicability determinations; or

5.1.c. where the context of the regulation clearly requires otherwise.

§45-34-6. Permits.

6.1. Nothing contained in this rule shall be construed or inferred to mean that permit requirements in accordance with applicable rules shall in any way be limited or inapplicable.

§45-34-7. Inconsistency Between Rules.

7.1. In the event of any inconsistency between this rule and any other rule of the West Virginia Department of Environmental Protection, the inconsistency shall be resolved by the determination of the Secretary and the determination shall be based upon the application of the more stringent provision, term, condition, method or rule.

FEDERAL REGISTER

Vol. 76 Thursday,
No. 33 February 17, 2011

Part III

Environmental Protection Agency

40 CFR Parts 9 and 63
National Emission Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and Production Area Source Category; and Addition to Source Category List for Standards; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9 and 63

[EPA–HQ–OAR–2010–0239; FRL–9242–3]

RIN 2060–AP48

National Emission Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and Production Area Source Category; and Addition to Source Category List for Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is adding the gold mine ore processing and production area source category to the list of source categories to be regulated under Section 112(c)(6) of the Clean Air Act due to its mercury emissions. EPA is also promulgating national emission standards for hazardous air pollutants to regulate mercury emissions from this source category.

DATES: This final rule is effective on February 17, 2011. The incorporation by reference of certain publications listed in the final rule is approved by the Director of the **Federal Register** as of February 17, 2011.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2010–0239. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at the EPA Headquarters Library, Room Number 3334, EPA West Building, 1301 Constitution Ave., NW., Washington, DC. The EPA/DC Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket and Information Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Mr. Chuck French, Sector Policies and Program Division, Office of Air Quality Planning and Standards (D243–02), Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541–7912; fax number (919) 541–3207, e-mail address: *french.chuck@epa.gov.*

SUPPLEMENTARY INFORMATION: The information presented in this preamble is organized as follows:

I. General Information
A. Does this action apply to me?
B. Where can I get a copy of this document?
C. Judicial Review
II. Addition to Section 112(c)(6) Source Category List
III. What is the statutory authority and regulatory approach for the proposed standards?
IV. Summary of Significant Changes Since Proposal
A. Applicability
B. Final Emission Standards
C. Compliance Dates
D. Compliance Requirements
E. Monitoring Requirements
F. Definitions
V. Summary of Responses to Major Comments
A. Statutory Requirements
B. Applicability
C. MACT Floors
D. Compliance Determinations
E. Monitoring Requirements
F. Definitions
VI. Summary of Environmental, Economic and Health Benefits
VII. 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
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 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. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act

I. General Information

A. Does this action apply to me?

The regulated categories and entities potentially affected by this final rule include:

Category	NAICS code [1]	Examples of regulated entities
Industry: Gold Ore Mining	212221	Establishments primarily engaged in developing the mine site, mining, and/or beneficiating (*i.e.*, preparing) ores valued chiefly for their gold content. Establishments primarily engaged in transformation of the gold into bullion or dore bar in combination with mining activities are included in this industry.

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. To determine whether your facility would be regulated by this action, you should examine the applicability criteria in 40 CFR 63.11640 of subpart EEEEEEE (National Emission Standards for Hazardous Air Pollutants (NESHAP): Gold Mine Ore Processing and Production Area Source Category). If you have any questions regarding the applicability of this action to a particular entity, consult either the air permit authority for the entity or your EPA Regional representative, as listed in 40 CFR 63.13 of subpart A (General Provisions).

B. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Worldwide Web (WWW) through the EPA Technology Transfer Network (TTN). Following signature, a copy of this final action will be posted on the TTN's 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.

C. Judicial Review

Under Section 307(b)(1) of the Clean Air Act (CAA), judicial review of this final rule is available only by filing a petition for review in the U.S. Court of

Appeals for the District of Columbia Circuit by April 18, 2011. Under section 307(d)(7)(B) of the CAA, only an objection to this final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the CAA, the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

Section 307(d)(7)(B) also provides a mechanism for us to convene a proceeding for reconsideration, "[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule." Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460, with a copy to the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

II. Addition to Section 112(c)(6) Source Category List

For reasons stated in the preamble to the proposed rule (75 FR 22470, April 28, 2010), we are adding the gold mine ore processing and production area source category to the list of source categories under section 112(c)(6) on the basis of its mercury emissions. The preamble for the proposed rule provides a description of this industry including the processes used and the typical control technologies applied.

III. What is the statutory authority and regulatory approach for the proposed standards?

As explained in the preamble to the proposed rule, CAA section 112(c)(6) requires that EPA set standards under section 112(d)(2) or (d)(4). The mercury standards for the gold mine ore processing and production area source category are being established under CAA section 112(d)(2), which requires maximum available control technology (MACT) level of control. Under CAA section 112(d), the MACT standards for existing sources must be at least as stringent as the average emissions limitation achieved by the best performing 12 percent of existing sources (for which the administrator has emissions information) for source categories and subcategories with 30 or more sources, or the best performing 5 sources for categories and subcategories with fewer than 30 sources (CAA section 112(d)(3)(A) and (B)). This level of minimum stringency is called the MACT floor. For new sources, MACT standards must be at least as stringent as the emission control that is achieved in practice by the best controlled similar source (CAA section 112(d)(3)). EPA also must consider more stringent "beyond-the-floor" control options. When considering beyond-the-floor options, EPA must consider not only the maximum degree of reduction in emissions of HAP, but must take into account costs, energy, and nonair quality health and environmental impacts when doing so.

IV. Summary of Significant Changes Since Proposal

This section summarizes the significant changes to the rule since proposal. Additional information on the basis for these changes and other changes can be found in the Summary of Responses to Major Comments in section V of this preamble and in the Summary of Comments and Responses document which is available in the docket for this action.

A. Applicability

We have clarified in § 63.11651 of the final rule that the term "gold mine ore processing and production facility" does not include individual prospectors and very small pilot scale mining operations. These types of operations are very small and were not included in the section 112(c)(6) inventory that was the basis for the listing of the gold mine ore processing and production source category.

B. Final Emission Standards

We have made changes to all of the proposed emission standards as the result of the following developments: (1) Inclusion of additional emissions test data received since proposal; [1] (2) additional analyses in response to public comments on the proposed rule; [2] and (3) further review of the data used to develop the standards for the proposed rule. The changes are summarized below and described in more detail in section V of this preamble. We estimate the final MACT standards will reduce mercury emissions from gold mine ore processing and production down to a level of about 1,180 pounds per year, which will be an estimated 77 percent reduction from the 2007 emissions level (5,000 lb/yr), a 95 percent reduction from year 2001 emissions level (about 23,000 lb/yr), and more than 97 percent reduction from uncontrolled emissions levels (more than 37,000 lb/yr).

Ore Pretreatment Processes

In the proposed rule, the proposed mercury emission standards for both existing and new ore pretreatment processes were 149 pounds per million tons of ore processed (lb/million tons of ore). In the final rule, the emission standard for existing sources is 127 lb/million tons of ore; and for new sources the emission standard is 84 lb/million tons of ore. The final emission standards are based on several changes to the data set used in the MACT analysis. Since we issued the proposed rule, we collected emissions data from more recent tests that were not available at proposal. Further, we learned that two emissions tests that we used to develop the MACT floor in our proposed rule had been invalidated by the Nevada Division of Environmental Protection (NDEP), and we removed those test results from the database. Information on the specific tests invalidated and the rationale are available in the docket (docket item number EPA–HQ–OAR–2010–0239–0061). We also discovered that the test data for a unit within the ore pretreatment affected source at a facility should have been included as part of a different unit at the same facility. We have also dropped the data for one facility from the analysis because their autoclave was shut down in 2007 and dismantled, and the only test data we had for them was one test of the autoclave when it was operating in 2006. Moreover, we conducted additional beyond-the-floor analyses for the ore pretreatment affected source. The new information and analyses described above are discussed in more detail in section V.C of this preamble and in the MACT Development Document which is available in the docket for this rulemaking.

The resulting data set included emissions data for four facilities that ranged from 45 to 165 lb/million tons of ore. Based on these data, and using the same upper prediction limit (UPL) approach used for proposal to account for variability, we determined the MACT floor to be 158 lb/million tons of ore for existing sources of ore pretreatment processes and 84 lb/

[1] The new test data used in final MACT standard calculations can be found in the docket as docket items: EPA–HQ–OAR–2010–0239–0359 and EPA–HQ–OAR–2010–0239–0360.

[2] Analyses for the final MACT standards can be found in the docket in the document titled: "Development of the MACT Floors and MACT for the Final NESHAP for Gold Mine Ore Processing and Production" (also known as the "MACT Development Document").

million tons of ore for new sources. As explained in the proposed rule (75 FR at 22482), the technologies that we estimate are needed to achieve the MACT floor level of performance for existing ore pretreatment processes include calomel-based mercury scrubbers on roasters and venturi scrubbers on autoclaves and ancillary roaster operations. The preamble to the proposed rule provides a description of the UPL and the approach and calculations used to derive the UPL. The UPL is also discussed further in section V.

In our beyond-the-floor analysis, we evaluated the potential to add condensers and carbon adsorbers to control autoclaves, and the potential to add carbon adsorbers to control the ore pre-heaters. Based on this beyond-the-floor analysis, we concluded that it is feasible and cost-effective to establish the MACT standard for existing sources at a level lower than the MACT floor. Based on the analysis, we determined the MACT standard for existing sources to be 127 lb/million tons of ore. For new sources, we determined that it was not feasible and cost-effective to establish a standard lower than the new source MACT Floor (of 84 lb/million tons); therefore the MACT standard for new sources was determined to be 84 lb/million tons.

The technologies needed to achieve the new source MACT floor will depend on the types of ore processed, amount of mercury in the ore, and specific process units used. Nevertheless, we conclude that, at a minimum, the controls that would be needed would include calomel-based mercury scrubbers on roasters and venturi scrubbers on autoclaves and ancillary roaster operations. Additional controls that will likely be needed to achieve emissions at or below the new source MACT floor level include condensers and carbon adsorbers on autoclaves, and carbon adsorbers on ore preheaters.

Table 1 summarizes the MACT floor analysis for existing and new ore pretreatment processes. The beyond-the-floor analyses are explained further in section V of this preamble and in more detail in the MACT Development document.

TABLE 1—MACT FLOOR RESULTS FOR ORE PRETREATMENT PROCESSES

Facility	Average performance (lb/million tons of ore)
A	45
C	56
E	71
D	165
Average of the 4 facilities	84
99% UPL for existing sources (*i.e.*, the MACT Floor for existing sources)	158
99% UPL for new sources [1] (*i.e.*, the MACT Floor for new sources)	84

[1] The MACT Floor for new sources is based on the average performance of Facility A (i.e., 45) plus an amount to account for variability (i.e., 45 + 39 = 84).

Carbon Processes

Under the proposed rule, all carbon processes were subject to the same proposed mercury emissions limits of 2.6 pounds per ton of concentrate (lb/ton of concentrate) for existing sources and, for new sources, either 0.14 lb/ton of concentrate or 97 percent reduction in uncontrolled mercury emissions. These limits would have applied to facilities that operate mercury retorts and facilities that do not operate mercury retorts. In the final rule, we distinguish between carbon processes with mercury retorts and carbon processes without mercury retorts because we believe there are unique differences in these two types of processes. Therefore, the final rule specifies separate emission standards for these two types of processes. Moreover, the final emission standards for carbon processes reflect inclusion of new test data that were not available at proposal. We also revised our data set based on new information that we received since proposal which impacted which sources were among the best performing sources. Based on the data that we have, there are 10 facilities that have carbon processes with mercury retorts, and we have mercury emissions data for all 10 of these facilities. There are approximately 7 facilities that have carbon processes without mercury retorts, and we have comprehensive and reliable mercury emissions data for 2 of these facilities. These 2 facilities are the best controlled facilities within that group based on the information we have. (*See* section V for further details.) For carbon processes with mercury retorts, the emission standard in the final rule is 0.17 lb/ton of concentrate for existing sources and 0.14 lb/ton of concentrate for new sources.

For carbon processes, regardless of whether the facility operates a mercury retort, we estimate that to meet the MACT floor facilities would generally need to have mercury condensers and carbon adsorbers to control mercury emissions. We also considered beyond-the-floor options for both existing and new sources for these process groups, which were based on the addition of a second carbon adsorber; however, we rejected those options because they are not cost effective. Additional information on the analyses performed can be found in the MACT Development document in the docket for this rulemaking.

We also eliminated in the final rule the compliance alternative of 97 percent reduction for new carbon processes. After reviewing the comments received on this proposed alternative standard and giving further consideration to the practicality of how it would be measured, we concluded that this option would be difficult to implement, particularly when multiple processes that are operated at different times vent to a single control device and stack. In addition, we have limited data supporting this compliance alternative. In proposing this alternative for comment, we had hoped to, but did not, receive additional data indicating that the 97 percent reduction option would be equivalent to the proposed new source limit of 0.14 pounds of mercury per ton of concentrate. For the reasons stated above, we eliminated the 97 percent control efficiency option for new carbon processes in the final rule.

Table 2 summarizes the results of the MACT floor analysis for carbon processes with mercury retorts, and Table 3 summarizes the analysis for carbon processes without mercury retorts.

TABLE 2—MACT FLOOR RESULTS FOR CARBON PROCESSES WITH MERCURY RETORTS

Facility	Average performance (lb/ton of concentrate)
N	0.53
J	0.74
I	1.06
A	1.47
H	1.67
D	2.20
C	3.71
G	8.17
E	14.49
B	20.60

TABLE 2—MACT FLOOR RESULTS FOR CARBON PROCESSES WITH MERCURY RETORTS—Continued

Facility	Average performance (lb/ton of concentrate)
Average of top 5	1.1
99% UPL for existing sources (*i.e.*, MACT Floor for existing sources)	2.2
99% UPL for new sources (*i.e.*, MACT Floor for new sources)	0.8

TABLE 3—MACT FLOOR RESULTS FOR CARBON PROCESSES WITHOUT MERCURY RETORTS

Facility	Average performance (lb/ton of concentrate)
M	0.058
F	0.098
Average of top 2 facilities	0.078
99% UPL for existing sources (*i.e.*, MACT Floor for existing sources)	0.17
99% UPL for new sources (*i.e.*, MACT Floor for new sources)	0.14

Non-Carbon Concentrate Processes

Under the proposed rule, the mercury emission standards for non-carbon concentrate processes were 0.25 lb/ton of concentrate for existing sources and 0.2 lb/ton of concentrate for new sources. In the final rule, the emission standards for these sources are 0.2 lb/ton of concentrate for existing sources and 0.1 lb/ton of concentrate for new sources. These standards are based on using new emissions data that were not available when we developed the proposal, along with the data that were used for the proposal. For non-carbon concentrate processes, we estimate that to meet the MACT floors, for both existing and new sources, facilities would generally need to control mercury emissions using mercury condensers and carbon adsorbers. As explained in the proposed rule, we considered beyond-the-floor controls for these processes (which were based on adding a second carbon adsorber to the MACT floor level controls) but concluded those controls would not be a cost-effective option. There are approximately 3 facilities in the U.S. that use these types of processes. We have emissions tests data for 2 of these facilities.

Table 4 summarizes the results of the MACT floor analysis for non-carbon concentrate processes.

TABLE 4—MACT FLOOR RESULTS FOR NON-CARBON CONCENTRATE PROCESSES

Facility	Average performance (lb/ton of concentrate)
K	0.047
L	0.078
Average of 2 facilities	0.062
99% UPL for existing sources (*i.e.*, MACT Floor for existing sources)	0.2
99% UPL for new sources (*i.e.*, MACT Floor for new sources)	0.1

C. Compliance Dates

In the final rule, we provide in § 63.11641 that the compliance date for existing sources is 3 years after promulgation of the final rule as opposed to 2 years as proposed. We reviewed the information provided in public comments on the challenges of installing new controls, especially for autoclaves, which, although the controls have not yet been demonstrated, have been proposed by facilities with autoclaves in their Nevada Mercury Control Program (NMCP) permit applications. We also considered the installation of new controls on the roaster preheaters, which also have not yet been demonstrated, but have been proposed by these facilities in their NMCP permit applications. We concluded that allowing 3 years for existing sources to comply is appropriate, given the complexity of the sources, the combinations of control devices that are needed in many cases, and the amount of time necessary for designing, installing, testing, and commissioning additional emission controls for mercury.

D. Compliance Requirements

Section 63.11646(a)(1) of the final rule does not include Method 30A, as was proposed, as an appropriate method for determining mercury concentration because it is not yet in general use. This paragraph further clarifies that the use of ASTM D6784–02 and Method 30B are allowed for compliance tests only if approved by the permit authority as opposed to automatically being allowed as in the proposal. The final rule also does not include the requirement to follow the acetone rinse procedures and the absence of cyclonic flow determination requirement, which were in subparagraphs (v) and (vi) respectively of our proposed § 63.11646(a)(1). Method 29 already includes requirements for the acetone rinse, so there is no need to specify those procedures in the rule; and Method 1, which is required by the rule, addresses the issue of cyclonic flow.

In § 63.11646(a)(2), we changed the minimum sample volume when Method 29 is used to determine compliance from the proposed 60 dry standard cubic feet (dscf) to 30 dscf. We believe this volume is adequate for detecting mercury in the samples and determining mercury emissions for this industry. We have also expanded this section to address non-detect values. If the emission testing results for any of the emission points yield a non-detect value, the final rule requires that the minimum detection limit (MDL) be used to calculate the mass of emissions (in pounds of mercury) for that emission point that would subsequently be used in the calculations to determine if the source is in compliance with the MACT standard. If the resulting calculations indicate that mercury emissions are greater than the MACT emission standard, the owner or operator may repeat the mercury emissions testing one additional time for any emission point for which the measured result was below the MDL using procedures that produce lower MDL results. If this additional testing is performed, the results from that testing must be used to determine compliance.

For sources with multiple emission units (*e.g.*, two roasters) ducted to a common control device and stack, we have clarified in § 63.11646(a)(3) that compliance testing must either be performed with all affected emissions units in operation, if this is possible, or units must be tested separately. We also clarified that the establishment of operating limits for units that share a common stack can be based on emissions when all process units are operating together, or based on testing units separately. However, this requirement does not affect the frequency and schedule for monitoring, which are specified in the rule. If facilities have batch type processes that cannot be operated simultaneously, then the facility can test some or all of the units individually.

In § 63.11646(a)(6) and (7), we clarify that the production data used in compliance determinations are based on full calendar months. For the initial compliance test, data for all the full calendar months between publication of the final rule and the initial compliance test must be used. This initial compliance determination must include at least one full month of production

data (*e.g.*, hours of operation, and million tons of ore processed or tons of concentrate processed) including the month the test was conducted. For subsequent annual compliance tests, data for the 12 full calendar months prior to the annual compliance test must be used to demonstrate compliance. In addition, we clarify in paragraphs § 63.11646(a)(5), (6) and (7) that compliance determinations are based on the number of 1-hour periods each process unit operates. By using the 1-hour period terminology, the final rule language is consistent with the terminology used in the General Provisions to part 63.

Because the final rule does not include the 97 percent reduction option that was in § 63.11645(e)(2) of the proposed rule, we have removed from the final rule the compliance requirement for that option that was in § 63.11646(b) of the proposed rule, which addressed testing the inlets and outlets for sources choosing that proposed option.

E. Monitoring Requirements

Section 63.11647(a) of the final rule includes an additional option for monitoring mercury emissions from roasters. The proposed rule specified two options for monitoring mercury emissions: Paragraph (a)(1) specified weekly sampling using PS 12B; and paragraph (a)(2) specified continuous monitoring using a mercury continuous emissions monitoring system (CEMS). In the final rule, we added paragraph (a)(3) to provide a third option of continuous sampling using PS 12B. In addition, paragraph (a)(1) in the final rule was changed to require sampling at least twice per month using either PS 12B or Method 30B rather than weekly. We believe that Method 30B is an acceptable alternative method for monitoring purposes and allows owners and operators more flexibility in how they monitor roaster emissions. We also believe that sampling twice per month coupled with extensive parametric monitoring of control devices (as explained below) is sufficient for the monitoring option in paragraph (a)(1).

Section 63.11647(a)(4)(iii) of the proposed rule would have required additional compliance testing if the mercury concentration in the ore fed to the roaster was higher than any concentration measured in the previous 12 months. We have removed this requirement from the final rule because it is not clear that the mercury content of the ore has a significant effect on the performance of mercury scrubbers applied to roasters, which are designed to handle and operate efficiently for a range of mercury inlet concentrations. In addition, condensers are used to recover liquid elemental mercury prior to the mercury scrubber, and any increase in mercury loading would likely result in an increase in the recovery of elemental mercury.

The final rule incorporates several changes to § 63.11647(b), which addresses monitoring of calomel-based mercury scrubbers (*i.e.*, mercury scrubbers) that are used to control emissions from roasters. The proposed rule required monitoring of the scrubber liquid flow, liquid chemistry, scrubber pressure drop, and scrubber inlet gas temperature hourly. The final rule does not include the requirement to monitor pressure drop across calomel-based scrubbers because we conclude that pressure drop is not related to mercury emission control performance by this type of control device. In addition, the final rule allows hourly monitoring of the line pressure in the scrubber liquid supply line as an alternative to hourly monitoring of scrubber liquid flow rate. Line pressure monitoring is already in practice at some facilities and provides the same type of information as does liquid flow rate. As was proposed, the final rule allows the operating limit for scrubber liquid flow rate (or line pressure) and inlet gas temperature to be based on the minimum flow rate (or line pressure) or maximum inlet gas temperature established during the initial performance test. It also includes two additional options for setting these operating limits: (1) Based on the manufacturer's specifications if certain types of systems are designed to operate within a specified range of flow rates or temperatures; and (2) based on limits established by the permitting authority. If the facility chooses the option to establish the limits during initial compliance, the final rule requires the scrubber flow rate operating limit to be based on either the lowest value for any run of the initial compliance test or 10 percent less than the average value measured during the compliance test and the inlet gas temperature operating limit to be based on either the highest value for any run of the initial compliance test or 10 percent higher than the average value measured during the compliance test. This requirement takes into account the fact that, although initially the system may exhibit little variability from test run to test run, the short-term variability in performance may increase with time. Additional discussion of these changes can be found in section V.E of this preamble and in the Summary of Public Comments and Responses document in the docket for this rulemaking.

In response to comments, we have revised the requirements for corrective action following control device monitoring parameter exceedances specified in § 63.11647(d). Under the final rule, if the corrective actions taken following an exceedance do not result in the parameter value (*e.g.*, liquid flow rate, line pressure, or inlet gas temperature) being returned to within the parameter range or limit within 48 hours, a mercury concentration measurement must be made to determine if the operating limit for mercury concentration is being exceeded. The measurement must be performed and the concentration determined within 48 hours after the initial 48 hours, or a total of 96 hours from the time the parameter was exceeded. If the measured mercury concentration meets the operating limit for mercury concentration, the corrective actions are deemed successful. In addition, the owner or operator may request approval from the permitting authority to change the parameter range or limit based on measurements of the parameter at the time the mercury concentration measurement was made. If, on the other hand, the measured mercury concentration indicates the operating limit for mercury concentration is exceeded, the exceedance must be reported as a deviation within 24 hours to the permitting authority, and the facility must perform a compliance test (pursuant to § 63.11647(d)) within 40 days to determine whether the source is in compliance with the MACT standard. We believe 40 days is appropriate because it may take 3 to 4 weeks to schedule and have the testing contractor on site, and, following completion of the test, another week or so to receive the final test results, and allows sufficient time to notify the permitting authority. We also removed the requirement that roasters must be shut down if a parameter is out of range.

In § 63.11647(a)(1)(ii) of the final rule, we require these same corrective actions described above (*i.e.*, measuring mercury concentration within 48 hours, reporting a deviation if the data show the operating limit was exceeded within 24 hours, and conducting a compliance test within 40 days) for exceedances of mercury concentration operating limits indicated by the results of the twice monthly monitoring using PS 12B or Method 30B, CEMS, or continuous monitoring using PS 12B. In such cases, the owner or operator must use the results of the compliance test to determine if the ore pretreatment

process affected source is in compliance with the emission standard. If the source is determined to be in compliance, the owner or operator may use this compliance test to establish a new operating limit for mercury concentration for the roaster. We also removed the requirement that roasters must be shut down if the mercury concentration is out of range.

In the final rule, § 63.11647(f)(1) requires monthly sampling of the exhaust stream of carbon adsorbers using Method 30B. The duration of sampling must be at least the minimum sampling time specified in Method 30B and up to one week. The proposed rule required a full week of such sampling, but, as pointed out by one of the commenters, breakthrough of the sampling trap from exhaust streams with high mercury concentrations could occur before a week had elapsed.

Section 63.11647(f)(2) of the final rule clarifies that sampling of the carbon bed must be collected from the inlet and outlet of the bed. This paragraph also specifies that, for carbon adsorbers with multiple carbon columns or beds, the sampling should be performed in the first and last column or bed rather than at the inlet or outlet.

We have deleted § 63.11647(f)(3) in the proposed rule, which allowed the carbon bed change-out rate to be determined based on historical data and the estimated life of the carbon. We have concluded that this method would not be adequate to ensure that breakthrough does not occur earlier than expected.

We have clarified § 63.11647(h) with respect to the monitoring of scrubbers (other than the calomel-based mercury scrubbers described above). Under the final rule, owners or operators are required to monitor and record water flow rate (or line pressure) and scrubber pressure drop once per shift; they also must record any occurrences when the water flow rate (line pressure) or pressure drop are outside the operating range, take corrective actions to return the water flow rate (line pressure) or pressure drop back in range, and record the corrective actions taken. At proposal, the water flow rate and pressure drop were to be monitored continuously. However, measuring the water flow rate (line pressure) and pressure drop once per shift will provide two to three measurements per day, and we believe that is sufficient to assure proper operations of the wet scrubber, and thus assure compliance with the emission standards. We have also added the option of monitoring the line pressure in the scrubber liquid supply line as an alternative to monitoring scrubber liquid flow rate because line pressure monitoring is already in practice at some facilities and provides the same type of information as does liquid flow rate. As was proposed, the final rule allows the operating limit for water flow rate and pressure drop to be based on the minimum value during the initial performance test. It also includes two additional options for setting the operating limit: (1) Based on the manufacturer's specifications; and (2) based on limits established by the permitting authority. We have also clarified that, for scrubbers on autoclaves, the pressure drop parameter range should be established from manufacturer's specifications only.

F. Definitions

We have added a definition of carbon adsorber to § 63.11651 to clarify that this term, as used in the final rule, includes control devices consisting of a single fixed carbon bed, multiple carbon beds or columns, carbon filter packs or modules, and other variations of carbon adsorber design.

The definition of "gold mine ore processing and production facility" in § 63.11651 of the rule has been clarified to state that small operations, such as prospectors and very small pilot scale mining operations, that process or produce less than 100 pounds of concentrate per year are excluded from the source category. These prospectors and very small pilot-scale operations (that process at or below this level) were not included in the section 112(c)(6) inventory that was the basis for the listing of gold mine ore processing and production source category. These types of very small operations were not intended to be subject to the final rule, and we do not expect any significant emissions from them. We also clarified that the source category does not include facilities at which 95 percent or more of the metals produced are metals other than gold. For example, if other non-ferrous metals (such as copper, lead, nickel, or zinc) comprise 95 percent or more of the product, the facility is not part of the gold ore processing and production source category.

V. Summary of Responses to Major Comments

A. Statutory Requirements

1. Listing of the Gold Mine Ore Processing and Production Source Category Under Section 112(c)(6)

Comment: One commenter stated that adding the gold mine ore processing and production category to the list of categories required by Clean Air Act (CAA) section 112(c)(6) was correct and required because gold mines accounted for a significant portion of the aggregate emissions of mercury in the baseline year (1990) and because they still do so today. Other commenters stated that EPA does not have the authority to list gold mining processing and production as a source category under section 112(c)(6) and noted that section 112(c)(6) requires EPA to list, by 1995, categories of sources that make up 90 percent of the 1990 emissions for a subset of hazardous air pollutants (HAP), including mercury. The commenters said that EPA concluded its statutory listing obligation for mercury in 1998 with the publication of a list of source categories constituting 90 percent of aggregate mercury emissions, and that gold mining was not included on that list in 1998. In addition, the commenters said that the CAA requires EPA to list all categories under section 112(c)(6) by 1995 and complete issuance of standards for all listed sources by 2000, a task that would be impossible if EPA had the authority to add source categories ad infinitum.

Response: We appreciate the commenter's support in listing the gold mine processing and production area source category pursuant to section 112(c)(6). We disagree, however, with the commenters that assert that EPA is precluded from listing additional categories pursuant to section 112(c)(6). The commenters appear to be arguing that EPA is limited to a single listing opportunity under section 112(c)(6) and, having not listed gold mine ore processing and production in the initial 1998 listing effort, EPA is now foreclosed from doing so. There is nothing in the language of section 112(c)(6), however, that precludes EPA from listing additional source categories to the extent EPA determines that those categories are needed to meet the 90 percent requirement in section 112(c)(6). Indeed, the commenter's reading is contrary to the fundamental purpose of section 112(c)(6).

The core requirement of section 112(c)(6) is that EPA "shall * * * list categories and subcategories of sources assuring that sources accounting for not less than 90 per centum of the aggregate emissions of each such pollutant" are subject to standards under either 11217FE0(d)(2) or (d)(4). EPA reasonably interprets section 112(c)(6) as allowing it to revise the list to add categories, where, as here, it determines that it needs the additional categories to meet the 90 percent requirement in section 112(c)(6). Indeed, EPA has previously revised the section 112(c)(6)

list to add a source category, where EPA determined that category was needed to meet its 90 percent requirement for mercury. *See* 72 FR 74087 (Dec. 28, 2007) (adding area source electric arc furnaces to the section 112(c)(6) list).

As explained in the proposed rule, we have a 1990 baseline emissions inventory, and it is against this baseline that we assess compliance with the 90 percent requirement for each of the pollutants specified in section 112(c)(6). EPA explained in the initial 1998 listing notice that it was using 1990 as the baseline year for assessing compliance with the 90 percent requirement. As EPA has developed emission standards for the sources included on the initial section 112(c)(6) list, it has acquired additional information on those sources and their emissions in 1990, which has resulted in some revisions to the 1990 baseline emissions inventory estimates. These revisions resulted in the need to regulate an additional source category. *See* 72 FR 74087 (setting standards for area source electric arc furnaces).

In addition to obtaining additional information concerning the source categories on the initial list, EPA has obtained additional information concerning the 1990 emissions of other sources. As explained in the preamble to the proposed rule, at the time of the initial section 112(c)(6) listing, there was very little available information on mercury emissions from gold mine ore processing and production. *See* 75 FR 22471. Because EPA lacked emissions information on mercury emissions from this source category at the time of the listing decision, EPA was unable to estimate the 1990 baseline mercury emissions from the gold mine ore processing and production source category and include this category in the first listing effort. Based on information that became available after the initial listing, EPA now finds that regulation of the area source gold mine ore processing and production category is needed to meet the 90 percent requirement for mercury. 75 FR 22471. Under the commenters' view, EPA cannot add any additional categories to the section 112(c)(6) list following the initial listing. If true, EPA could not meet its section 112(c)(6) obligation—a result Congress could not have intended. EPA reasonably interprets section 112(c)(6) in a manner that allows the Agency to achieve that provision's core requirement. EPA repeats that it sees nothing in the language or purpose of section 112(c)(6) that precludes it from listing additional source categories as needed.

Finally, Congress left to EPA's discretion which categories and subcategories of sources to include on the section 112(c)(6) list. We have determined that we need the gold mine ore processing and production source category to meet the 90 percent requirement in section 112(c)(6) for mercury and are therefore now setting standards for that category.

We also reject the comment that the task of completing standards by 2000 would be impossible if EPA had the authority to add source categories. Nevertheless, EPA is under a court ordered deadline to complete section 112(c)(6) standards by January 16, 2011. (*Sierra Club* v. *EPA*, Consolidated Case No. 01–1537, D.D.C).

Comment: Some commenters claimed that EPA did not provide an adequate basis for its 1990 emissions estimate for gold mining processing and production. Specifically, they questioned EPA's estimated emissions of 4.4 tons from this source category in the 1990 baseline year.

Response: Although the commenters question EPA's estimated emissions of 4.4 tons from this source category in the 1990 baseline year, they did not provide an alternative method for calculating such emissions or alternative data or assumptions that should be used. They also did not explain what they think the 1990 baseline emissions should have been. EPA continues to maintain that its baseline emissions estimate is reasonable. The methodology EPA used to derive that estimate is described in docket item EPA–HQ–OAR–2010–0239–0175.

Comment: Several commenters stated that Phase 2 permits under the Nevada Mercury Control Program (NMCP), which are scheduled for issuance by the end of 2010, will result in MACT-level controls on all thermal units at Nevada gold mines. According to the commenters, these permits are the culmination of a 7-year collaborative effort between NDEP and the gold mining industry to substantially reduce mercury emissions from gold mine processes. The commenters said that the proposal does not address how the NESHAP will result in reductions in mercury at gold mines in areas of the country other than Nevada, where the mercury content of the ore in gold mines is non-existent or only a fraction of the amount found in Nevada, and Nevada accounted for 99 percent of mercury emissions associated with gold mining operations in the United States. According to the commenters, this shows that if Nevada has an equivalent mercury control program for the gold mining industry, then there is nothing to be gained from imposing a Federal program, and if EPA acknowledges that the mines in Nevada are already well controlled, then the listing of gold mining and the promulgation of an additional layer of regulation at substantial cost to industry, but with little environmental benefit, is both legally indefensible and practically unsupportable.

Response: As explained above, we are regulating the gold mine ore processing and production source category to meet the 90 percent requirement in section 112(c)(6) for mercury and are therefore setting standards for that category. Based on our 1990 baseline inventory for section 112(c)(6) and other emissions information for subsequent years, we estimate that this industry was among the top ten highest emitting categories of mercury emissions in the U.S. in 1990 and has remained in the top 10 since that time. Moreover, even though most emissions are from facilities located in Nevada, several commenters expressed serious concerns about the potential for mercury emissions from new gold mines in other States (*e.g.*, Alaska). We share these concerns about potential emissions from new gold mine facilities. Finally, Congress left to EPA's discretion which categories and subcategories of sources to include on the section 112(c)(6) list. We are regulating the gold mine ore processing and production source category to meet the 90 percent requirement in section 112(c)(6) for mercury and are therefore now promulgating a Federal NESHAP for existing and new gold mine ore processing and production facilities.

2. Emission Standards for HAP Other Than Mercury

Comment: One commenter stated that CAA section 112(c)(6) provides that EPA must "list categories and subcategories of sources assuring that sources accounting for not less than 90 percent of each [enumerated] pollutant are subject to standards under subsection (d)(2) or (d)(4) of this section." The commenter also stated that the D.C. Circuit has held repeatedly that when EPA sets standards for a category or subcategory of sources under section 112(d)(2), EPA has a statutory duty to set emission standards for each HAP that the sources in that category or subcategory emit (*e.g.*, *National Lime Ass'n* v. *EPA*, 233 F.3d 625, 633–634 (D.C. Cir. 2000)). The commenter concluded that when EPA sets standards for gold mines under section 112(d)(2), as section 112(c)(6) requires it to do, EPA must set section 112(d)(2) emission standards for all the HAP that gold mines emit.

The commenter said that EPA appears to believe that because gold mines are

needed only to reach the section 112(c)(6) requirement of 90 percent for mercury and not for the other pollutants enumerated in section 112(c)(6), EPA's only obligation under section 112(c)(6) is to set section 112(d)(2) standards for mercury. The commenter said that section 112(c)(6) expressly requires EPA to issue section 112(d)(2) standards for the "sources" in the categories listed under section 112(c)(6), not some subset of the pollutants that those sources emit, and that section 112(d)(2) standards must include emission standards for each HAP that a source category emits. The commenter continued by stating that nothing in the CAA exempts EPA from this requirement. The commenter concluded that, had Congress wished to give EPA discretion to set standards for only some of the pollutants emitted by a category listed under section 112(c)(6), it would have done so expressly.

Response: EPA disagrees with the comment that, even though EPA lists a category under section 112(c)(6) due to the emissions of one or more HAP specified in that section, EPA must issue emission standards for all HAP (including HAP not listed in section 112(c)(6)) that sources in that category emit. The commenter cited in support the opinion by the United States Court of Appeals for the DC Circuit in *National Lime Ass'n* v. *EPA*, 233 F.3d 625, 633–634 (D.C. Cir. 2000)). The part of the National Lime opinion referenced in the comment dealt with EPA's failure to set emission standards for certain HAPs emitted by major sources of cement manufacturing because the Agency found no sources using control technologies for those HAP. In rejecting EPA's argument, the court stated that EPA has "a statutory obligation to set emission standards for each listed HAP." Id. at 634. The Court noted the list of HAP in section 112(b) and stated that section 112(d)(1) requires that EPA "promulgate regulations establishing emission standards for each category or subcategory of *major sources* * * * of hazardous air pollutants listed for regulation. * * *" Id. (Emphasis added). For the reasons stated below, we do not believe that today's final rule is controlled by or otherwise conflicts with the *National Lime* decision.

National Lime did not involve section 112(c)(6). That provision is ambiguous as to whether standards for listed source categories must address all HAP or only the section 112(c)(6) HAP for which the source category was listed. Section 112(c)(6) requires that "sources accounting for not less than 90 per centum of the aggregate emissions of each such [specific] pollutant are subject to standards under subsection (d)(2) or (d)(4)." This language can reasonably be read to mean standards for the section 112(c)(6) HAP or standards for all HAP emitted by the source. Under either reading, the source would be subject to a section 112(d)(2) or (d)(4) standard.

The commenter insists that once a section 112(d)(2) standard comes into play, all HAP must be controlled (per *National Lime*). But this result is not compelled by the pertinent provision, section 112(c)(6). That provision is obviously intended to ensure controls for specific persistent, bioaccumulative HAP, and this purpose is served by a reading which compels regulation under section 112(d)(2) only of the HAP for which a source category is listed under section 112(c)(6), rather than for all HAP.

The facts here support the reasonableness of EPA's approach. Gold mine ore processing is an area source category listed under section 112(c)(6) for regulation under section 112(d)(2) solely due to its mercury emissions. There is special statutory sensitivity to regulation of area source categories in section 112. For example, an area source category may be listed for regulation under section 112 if EPA makes an adverse effects finding pursuant to Section 112(c)(3) or if EPA determines that the area source category is needed to meet its section 112(c)(3) obligations to regulate urban HAP or its section 112(c)(6) obligations to regulate certain persistent bioaccumulative HAP. Therefore, unless an area source category emits a section 112(c)(3) urban HAP or a section 112(c)(6) HAP and EPA determines that such category is needed to meet the 90 percent requirement set forth in section 112(c)(3) and (c)(6), findings related to adverse human health or environmental effects are required before EPA can regulate that area source category—findings EPA is unable to make for non-mercury HAP emitted from the gold mine ore processing and production source category at this time. Moreover, to the extent EPA lists an area source category pursuant to section 112(c)(3) (whether that finding is based on adverse effects to human health or the environment or a finding that the source is needed to meet the 90 percent requirement in section 112(c)(3), the statute gives EPA discretion to set generally available control technology ("GACT") standards for such sources. 42 U.S.C. 7412(d)(5).

EPA does not interpret section 112(c)(6) to create a means of automatically compelling regulation of all HAP emitted by area sources unrelated to the core object of section 112(c)(6), which is control of the specific persistent, bioaccumulative HAP, and thereby bypassing these otherwise applicable preconditions to setting section 112(d) standards for area sources. Nor does *National Lime* address the issue, since the case dealt exclusively with major sources.[3] 233 F. 3d at 633. Consequently, EPA disagrees with the comment that it is compelled to promulgate section 112(d)(2) MACT standards for all HAP emitted by gold mine ore processors.

3. Emission Standards for Fugitive Emissions

Comment: One commenter stated that gold mines have significant fugitive emissions of mercury, but that EPA did not propose standards for these emissions or mention them in its proposal. The commenter said that EPA has a statutory obligation to set standards for gold mine mercury emissions under section 112(d)(2) and (3), and must set emission standards for all the mercury emissions from the listed category. Another commenter described a recent preliminary study at two facilities in Nevada that found fugitive mercury air emissions from various non-point sources at those two mining operations such as from leach pads and tailings ponds.

One commenter stated that means to control fugitive emissions are available, such as enclosing their leaching operations. By enclosing the leaching process, the commenter believes that mines could eliminate this source of fugitive emissions. The commenter also stated that mines should not send tailings into open tailing ponds, but into closed treatment facilities that would remove mercury and other HAP from the tailings and prevent their release to the air. The commenter recommended that EPA evaluate the use of sulfur-based complexing agents for removing mercury during cyanidization of gold. According to the commenter, research indicates that these products appear useful for substantially reducing mercury in process solution during heap leaching.

Response: Due to the lack of information, we have not included fugitive mercury emissions at gold mine facilities in our 1990 baseline emission estimate (or in our more recent emissions estimates) for the gold mine ore processing and production area source category. Accordingly, these fugitive emissions are not part of the

[3] EPA acknowledges that major sources regulated under section 112 must be subject to MACT standards for all HAP emitted from the source category consistent with *National Lime*.

source category we are listing and regulating in this final rule. Other than the recent preliminary research at two facilities, we have no data on fugitive mercury emissions at gold mine facilities. The recent preliminary research suggests that some fugitive emissions may be occurring at these facilities from large non-point sources such as tailings ponds, leach fields and waste rock piles. However, it is our understanding that this preliminary research has not yet been published or peer-reviewed. Thus, at this juncture, we do not have sufficient information on fugitive emissions.

Furthermore, we have very little information on how these fugitive mercury emissions might be controlled. A few commenters suggested that certain compounds were available that may be useful for limiting these emissions. However, as far as we know, there has been no demonstration that these compounds would work effectively to limit the emissions, and we do not know the costs or potential adverse impacts of applying these chemicals. Therefore, we question the feasibility and practicality of applying these chemicals to limit fugitive mercury emissions from these non-point sources. We also question the feasibility and practicality of enclosing the leaching operations or the tailings ponds, as suggested by some commenters.

As explained in the proposed rule, the gold mine ore processing and production area source category covers the thermal processes that occur after ore crushing, including roasting operations (*i.e.*, ore dry grinding, ore preheating, roasting, and quenching), autoclaves, carbon kilns, electrowinning, preg tanks, mercury retorts, and furnaces. The data and calculations used to derive the estimated 4.4 tons of mercury emissions for this source category for the 1990 baseline inventory for section 112(c)(6) reflect emissions from the thermal processes described above, and the final MACT standards address all of these processes.

4. Major Source Determination

Comment: One commenter noted that the proposal stated that the gold mining processing and production source category consists of only area sources; however, the proposal indicated that actual emissions of hydrogen cyanide (HCN) at a few facilities were near the major source threshold. The commenter concluded that EPA violates both the CAA and its own regulations by basing its evaluation of whether gold mines are major sources on their actual emissions instead of their potential emissions.

The commenter further noted that the proposal requested comment on a certification process that would allow gold mines to avoid major source status whereby companies could certify that they are area sources by implementing certain "management practices" and then certifying to EPA that they had done so. The commenter stated that such a certification process would be unlawful in calculating a sources "potential to emit" because the management practices are not "control equipment," "restrictions on hours of operation or on the type or amount of material combusted, stored, or processed," and would not be "federally enforceable."

Other commenters supported EPA's conclusion and determination that the gold mines are area sources of HAP. According to the commenters, EPA's methodology in making this determination was extremely conservative because EPA did not apply what the commenters believe to be a key correction factor. Application of this correction factor would have reduced the HCN emissions estimates from by approximately 40–50%. The commenters also stated that fence line testing at selected gold mine operations demonstrated that these levels of HCN were below all applicable public health standards.

The commenters believe that, because the gold mines are area sources of HCN, they should not be subject to section 112 work practice standards or newly developed certification requirements. The commenters noted that it is not technically practical to set systematic work practice standards to reduce HCN emissions for every gold mining operation to follow because each mine is unique in its mineralogy and cyanide leaching processes, and different process solution pH values are necessary to enhance gold recovery.

The commenters explained that for economic, health, and safety reasons, they already implement work practice standards designed to minimize HCN. The commenter concluded that the combination of these work practice standards and the annual TRI reporting more than adequately ensure that gold mining operations will remain area sources of HCN.

Response: Contrary to the assertions of one of the commenter's, EPA did not state in the preamble to the proposed rule that the sources at issue had actual emissions ranging from 5 to 9 tons. By contrast, EPA stated that "a few facilities are close to the major source threshold due to hydrogen cyanide (HCN)." 75 FR 22479. EPA failed to clarify in the preamble to the proposed rule that the range of 5 to 9 tons represented potential to emit calculations for the largest-emitting sources. Specifically, as explained in the document "Estimated Emissions of HCN from Gold Mine Facilities in the U.S." (which is available in the docket for this rulemaking), EPA estimated the potential to emit for the five largest sources assuming that these sources would be operating every day of the year, 24 hours a day, at 100 percent of its current capacity. These assumptions and calculations resulted in a potential to emit estimate of 5 tons of HCN per year for the largest source. EPA then completed a second set of calculations, using the same assumptions (*i.e.*, operating every day of the year, 24 hours a day, at full capacity), but without applying the surface area correction factor, and those calculations resulted in a conservative potential to emit estimate of 9 tons of HCN per year for the largest source. The emission estimates for the remaining large facilities were all below 9 tons.

The commenters correctly point out that in determining whether a source is a "major source" under CAA section 112, we must consider the source's potential to emit, as well as its actual emissions. See CAA section 112(a)(1) and 40 CFR 63.2. As noted above, we specifically examined the sources' potential to emit and concluded that all sources' potential to emit were below the major source thresholds.

Some commenters allege that EPA significantly overestimated HCN emissions from the larger sources by not accounting for certain correction factors. They assert that if one were to account for the appropriate correction factors in developing the potential to emit values, HCN emissions would "range from 3.7–4.5 tpy for the larger mines compared to the 5–9 tpy estimate" (*See* document titled "PTE Emission Estimates for HCN" by the Nevada Mining Association, which is available in the docket for this action). Other commenters make a blanket, unsupported assertion that the Agency has underestimated HCN emissions from the source category because they believe that without the management practices currently employed by sources in the category, HCN emissions would exceed the major source thresholds at the larger sources. These latter commenters, however, made only conclusory statements and did not demonstrate that HCN emissions from the larger sources would exceed the major source thresholds if the management practices were not employed.

In sum, EPA has developed conservative estimates of the sources' potential to emit HCN. At one end of the range EPA estimates potential emissions of 5 tons per year of HCN for the largest source, which is well below the major source threshold of 10 tons per year of a single HAP. At the other end of the range EPA estimates potential emissions of 9 tons per year for that same largest source, which is a conservative estimate and is still below the major source threshold. The emission estimates for the remaining large facilities were all below 9 tons. We understand that the sources at issue implement various management practices as part of their operations to minimize the use and emissions of cyanide to protect workers, to comply with Mine Safety and Health Administration (MSHA) standards, to comply with their agreements to the International Cyanide Code, and for economic reasons (to reduce operational and supply costs). We currently do not have sufficient information to explicitly quantify emissions reductions achieved through these management practices, but nothing in the record suggests that the facilities would be major sources if they failed to employ the management practices. Accordingly, we are taking final action today to list the gold mine ore processing and production area source category and regulate its mercury emissions pursuant to CAA section 112(c)(6).

Although not required, we intend to send letters to various Gold Mining Processing and Production companies pursuant to Section 114 of the Clean Air Act to confirm our conclusion that the sources' potential to emit remain below major source thresholds.

5. Title V Permit Exemption

Comment: In the proposal preamble, EPA solicited comment on whether a title V exemption "is appropriate under section 502(a) for any particular sources in this category." One commenter offered the following reasons for not exempting gold mines from title V permitting requirements:

- EPA did not properly determine whether some or all sources in the category are major sources by determining each source's potential to emit.
- The CAA allows EPA to exempt area sources from title V permitting only if it establishes that compliance with the title V permitting requirements would be "impracticable, infeasible or unnecessarily burdensome." However, EPA does not claim that such requirements are "impracticable," "infeasible," or "unnecessarily burdensome" for gold mines.
- It is feasible and within the gold mining companies' financial means to comply with title V permitting requirements.

The commenter believes that the text and legislative history of the CAA make plain that Congress intended ordinary citizens to be able to get emissions and compliance information about air toxics sources and to be able to use that information in enforcement actions and in public policy decisions on a State and local level. According to the commenter, Congress did not think that enforcement by States or other government entities was enough; if it had, Congress would not have enacted the citizen suit provisions. The commenter said that, if a source does not have a title V permit, it is difficult or impossible for a member of the public to obtain relevant information about its emissions and compliance status or to bring enforcement actions. The commenter stated that to the extent the informational and enforcement benefits provided by title V permits can be considered a burden, these benefits far outweigh that burden.

The commenter also noted that title V provides important monitoring benefits and that title V permits are necessary to provide adequate monitoring. The commenter concluded by stating that the legislative history of the CAA shows that Congress did not intend EPA to exempt source categories from compliance with title V unless doing so would not adversely affect public health, welfare, or the environment; however, exempting gold mines from title V would adversely affect public health, welfare and the environment by depriving the public of important informational and enforcement benefits.

One State agency commented that additional title V permitting would subject both the source and the State agency to additional resource burdens. The commenter points out that major sources of criteria pollutant emissions are currently subject to title V permit requirements in Nevada and that sources not subject to major source permitting requirements are subject to Nevada's minor source permitting program. In addition, the NMCP requires all mining sources to obtain mercury-specific operating permits to construct. The commenter believes that these permit programs would provide a strong basis for implementing and enforcing any Federal MACT requirements for the gold mining industry, and there would be nothing gained by subjecting these sources to title V permitting.

Several commenters stated that EPA should exercise its discretion and exempt the gold mine ore processing and production industry from the title V requirements as impracticable, infeasible, and unnecessarily burdensome. The commenters said that, in light of EPA's findings in other similar rulemakings for area sources, the four factors set forth in the Exemption Rule support a finding that title V permitting is "unnecessarily burdensome" for the gold mine ore processing and production area source category.

In discussing the first factor of the Exemption Rule, whether title V would result in significant improvements to the compliance requirements, the commenters said that the proposed NESHAP for the gold mine ore processing and production area source category includes extensive monitoring, recordkeeping, and reporting requirements that are more comprehensive than title V requirements. The commenters believe that Nevada regulations and permits provide an additional layer of compliance assurance on the Federal NESHAP that obviates the need for title V permitting. The commenters claimed that the additional layering of title V does not "significantly improve" upon the proposed and existing compliance requirements.

Regarding the second factor in the Exemption Rule, whether title V permitting would impose significant burdens on the area source category and whether the burdens would be aggravated by any difficulty the sources may have in obtaining assistance from permitting agencies, the commenters said that there are extensive administrative burdens and costs associated with the title V permitting process, including mandatory activities that have been previously identified by EPA. The commenters claimed that many of the area source gold mines are owned and operated by small entities that are already required to comply with comprehensive State permitting requirements for mercury emissions and that requiring title V permits for them would result in resources being redirected away from more useful and necessary efforts.

The commenters explained that the third factor in the Exemption Rule examines whether the costs of title V permitting for the area source category would be justified, taking into consideration any potential gains in compliance likely to occur for such sources. The commenters claim that there do not appear to be any gains in compliance to justify the additional costs that would be imposed on these area sources from title V permitting

based on the lack of significant improvements in compliance requirements and the substantial additional costs and burdens associated with title V compliance.

The commenters noted that the fourth factor in the Exemption Rule analysis is whether there are implementation and enforcement programs in place that are sufficient to assure compliance with the NESHAP for the area source category, without relying on title V permits. The commenters claimed that the proposed rule includes all necessary monitoring to effectively implement its requirements, and the area sources for the gold mine ore processing and production are already permitted under State permit programs. According to the commenters, all non-title V sources in Nevada are required to hold "Class II" operating permits that must contain, among other things, all applicable emission limitations and standards. The commenters said that other States where gold mine ore processing and production area source are located either would be covered by a comparable delegated State air program or by EPA.

The commenters stated that EPA regularly provides title V exemptions for area sources similar to gold mine ore processing and production area sources and cited examples from the past year. The commenters claim that the existing and proposed compliance and monitoring requirements for the gold mines are generally more stringent than those found in the other NESHAPs for which EPA has granted a title V permit exemption.

The commenters stated that exempting the gold mine ore processing and production area source category from title V permitting will not adversely affect public health, welfare, or the environment because title V permits do not generally impose substantive air quality control requirements. According to the commenters, requiring title V permits also carries the potential of adversely affecting public health, welfare, or the environment by shifting State agency resources away from ensuring compliance with a program that is reducing mercury emissions from gold mines.

The commenters stated that EPA should exempt the gold mine ore processing and production area source category from title V permitting requirements, and at a minimum, should exempt area source gold mines that are subject to Nevada's comprehensive mercury control program.

Response: After reviewing the comments, we continue to believe that it is appropriate that all gold mine ore processing and production facilities be required to obtain title V permits. Most of the other area source categories for which we have provided title V permit exemptions have hundreds or thousands of facilities that are mostly owned by small businesses. In contrast, there are an estimated 21 facilities that are subject to this final rule, and, based on our research and analyses, none of the facilities are owned by small businesses; most of these facilities are owned by large, and in some cases, multi-national, corporations. Therefore, we conclude that the argument of financial burden, which has supported title V exemption for other source categories, does not apply to the gold mining industry (see Economic and Small Business Analysis, which is available in the docket).

Currently, it is our understanding that 7 of the 21 facilities that will be subject to the final rule already have title V permits (5 in Nevada and 2 in other states). Further, there are approximately 5 facilities in all other States (*i.e.*, except Nevada) that do not currently have title V permits that will be subject to this final rule, so title V permitting will apply to no more than a few facilities in any one of these other States. Therefore, we do not believe the requirement for title V permitting will be overly burdensome to the permitting authorities in those States. Although there are more facilities in Nevada that will be subject to the final rule, as the commenters point out, Nevada already has an effective permitting system in place. Five of the 14 gold mine facilities in Nevada already have title V permits. Because of Nevada's existing permitting system and experience with title V permitting, we do not think that it is an undue burden on the State of Nevada to require title V permits from the other gold mine facilities located within the State. We also think it is important for the public in States where these facilities are located to have access to emissions and monitoring data and the opportunity for public involvement in the permitting of these facilities that is provided by title V permitting.

6. Reconstruction

Comment: Several commenters believe it is appropriate to group under each of the umbrella "affected sources" all the equipment associated with each particular process in order to ensure a reasonable application of the reconstruction provisions found in the General Provisions. The commenters asked that EPA reaffirm that the 50 percent fixed capital cost trigger for determining reconstruction would be measured against all equipment components needed for the defined processes, and that reconstruction at one affected source as defined in the standard will not affect or result in reconstruction at another affected source.

The commenters also noted that the definition of "reconstruction" authorizes EPA to establish special provisions in a particular standard for the application of the reconstruction criteria to the affected source. The commenters said that the "carbon processes" affected source illustrates that the affected source can consist of several pieces of interconnected equipment that together constitute the process line, and it can be anticipated that production needs will give rise to the need to add more pieces of equipment to an existing carbon process line or even to install a whole new carbon process line. The commenters provided three examples: Adding a new component to an existing carbon processes group; construction of a new carbon group due to expansion at a facility that has an existing carbon group; and installation of new pollution control equipment. The commenter said that consideration of whether or where new MACT requirements should apply in these examples warrants the development of special reconstruction provisions in this standard, or EPA should clarify that the three examples would not be considered reconstruction under the proposed rule.

The commenters asked that EPA either clarify that the three examples would not be considered reconstruction, or alternatively, add the following provisions to the proposed rule: (1) An addition of a new piece of equipment to address production requirements is not considered a reconstruction, (2) the expansion of a facility by the construction of a completely new process line will not be considered a reconstruction of an existing process line, and (3) the installation of air pollution control equipment to comply with this standard is not considered a reconstruction.

Response: The determination of what constitutes a reconstruction is directly tied to the definition of the affected source and the definition of reconstruction in the part 63 General Provisions:

> Reconstruction, unless otherwise defined in a relevant standard, means the replacement of components of an affected or a previously nonaffected source to such an extent that:
>
> (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to

construct a comparable new [affected] source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

For each of the four affected sources in the final rule, we have defined the affected source as the collection of processes associated within each affected source. Consequently, if one process within the affected source is upgraded or replaced with a new process, the 50 percent fixed capital cost criterion would be based on the fixed capital cost of replacing all processes in the affected source, not just the capital cost of the process being upgraded or replaced. For example, if a new carbon kiln is added to an existing group of carbon processes with mercury retorts, the capital cost of the new carbon kiln would be divided by the fixed capital cost of constructing a comparable new affected source containing all of the processes within the existing affected source of carbon processes with mercury retorts to calculate the percent for comparison to the 50 percent criterion.

With regard to the scenario where a new carbon process with a mercury retort is installed, the affected source is defined as the collection of all applicable processes within the affected source, and because of this, a facility could not have two carbon processes with mercury retorts affected sources, such as the commenter suggested, where one group is new and the other is existing. For example, if a new group of carbon processes with mercury retorts is installed at a facility in addition to an existing group of carbon processes with mercury retorts, the two groups (all carbon processes with mercury retorts at the facility) collectively would be a single affected source. In this case, the fixed capital cost criterion would be based on the fixed capital cost of replacing the existing affected source with a comparable new affected source, and if the new processes exceed 50 percent of that cost, all of the carbon processes with mercury retorts would be subject to the new source limit for carbon processes. There would not be separate and different emission standards for the two sets of carbon sources with mercury retorts (the older group and newer group) because the collection of all of these processes is the affected source.

We do not see a necessity to provide criteria for this final rule that are different from the requirements in the General Provisions for determining what constitutes a reconstruction. We also think it is appropriate to exclude the cost of emission control equipment from the cost calculation for reconstruction determinations.

B. Applicability

Comment: Several commenters stated the rule should exempt individuals (prospectors), laboratories, small mining operations, and non-leaching operations. The commenters urged EPA to include in the final rule all of the following exemptions to avoid the problem of unintended regulation of sources that were not meant to be included in the source category: Gold mining operations that produce less than 100 pounds of concentrate per year, which would exempt analytical labs that perform small bench scale processing tests on gold ores; gold mining operations that do not leach or dissolve gold, which would exempt placer and other non-leaching operators, including both small commercial efforts as well as individual recreation-type prospectors; and gold mining operations that process less than 1,000 tons per year of gold ore, which would exempt certain small scale pilot plants and related testing operations. The commenters said that the exemptions suggested above will not reduce in any way the effectiveness of the proposed rule in controlling mercury emissions from the targeted larger mines, nor will they lead to increased mercury emissions, but they will exclude regulation of a large number of small operators who do not emit any significant mercury.

Response: Section 63.11640(c) of the proposed rule provides that the emissions standards for this area source category do not apply to research and development facilities, as that term is defined under CAA section 112(c)(7). We did not receive any adverse comments concerning this provision, and are finalizing the provision in this rule.

Further, as mentioned above in section IV, we are clarifying in this final rule that this area source category does not include individual prospectors and very small pilot scale mining operations. Prospectors and other very small pilot-scale operations (*e.g.*, operations that produce or process less than 100 pounds of concentrate per year) are very small and were not included in the section 112(c)(6) inventory that was the basis for the listing of gold mine ore processing and production source category. We believe that emissions from the very small scale operations described above to be very minimal.

By contrast, the commenter's suggested 1,000 tons/yr ore threshold may include operations beyond the very small scale pilot operations discussed above. We believe that the 100 pounds of concentrate per year more appropriately reflect these very small scale operations.

We are not making the suggested change of excluding operations that do not leach or dissolve gold because certain gold mine facilities in the source category use flotation or gravity flotation processes and perform thermal processing of concentrate in melt furnaces, which can have significant emissions of mercury. However, as mentioned above we are clarifying that this final rule does not apply to these very small scale operations.

C. MACT Floors

1. Consideration of Variability in Determining Floors

Comment: One commenter acknowledged that EPA may consider variability in calculating the best sources' performance, but stated that EPA's method of considering variability seeks to assure that none of the sources among those identified as best performers would ever exceed the floor level. The commenter claims that such an approach ignores the reality that sources' emission levels are largely within their control, and although a great deal of variability may be statistically conceivable if EPA chooses a high enough prediction limit (in this case the 99th percentile) that does not mean that a well-operated source actually would experience such variability. The commenter said that one of the main points of having emission standards is to ensure that sources not only deploy the appropriate control measures, but also use those control measures consistently to minimize emissions.

The commenter said that using an upper prediction limit to set standards reflecting the statistical worst performance these sources could have in a purely statistical sense does not yield an accurate picture of the best sources actual performance, and it is especially arbitrary in the absence of any explanation of why EPA thinks that the relevant best sources' performance would ever be so bad, other than the fact that it is statistically possible.

Response: As described previously, the MACT floor limits are calculated based on the performance of the lowest

emitting sources in each of the MACT floor pools. We ranked all of the sources for which we had data based on their emissions and identified the lowest emitting sources.

As the commenter concedes, EPA can consider variability in assessing sources' performance when setting MACT standards. See *Brick MACT*, 479 F.3d at 881–82; and *Mossville Envt'l Action Now* v. *EPA*, 370 F.3d 1232, 1241–42 (D.C. Cir 2004) (reaffirming that EPA can assess variability in determining the level of emissions control achieved by the best performing sources).

Variability in facilities' performance has various causes. One source of variability for these facilities is the differing mercury concentrations in the input materials. Another source of variability is due to normal variations in performance of the control devices for which both run-to-run and test-to-test variability must be accounted.[4] A review of the run-by-run emissions data in the record shows that emission rates from one run to the next for well-operated sources can vary by as much as a factor of 8. We need to account for sources' variability (both due to control device performance and variability in inputs) in assessing sources' performance when developing technology-based standards. Accordingly, EPA accounts for variance in test data, between units, and among facilities when developing the MACT standard.

In determining the MACT floor limits, we first determine the average emissions of the top performers based on available data. We then assess variability of the best performers by using a statistical formula designed to estimate a MACT floor level that is equivalent to the average of the best performing sources based on future compliance tests. Specifically, the MACT floor limit is an upper prediction limit (UPL) calculated with the Student's t-test. The Student's t-test has also been used in other EPA rulemakings (*e.g.*, NESHAP for Cement Manufacturing, NSPS for Hospital/Medical/Infectious Waste Incinerators, and NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters) in accounting for variability. A prediction interval for a future observation is an interval that will, with a specified degree of confidence, contain the next (or some other pre-specified) randomly selected observation from a population. In other words, the prediction interval estimates what the upper bound of future values will be, based upon present or past background samples taken. The UPL consequently represents the value which we can expect the mean of future observations (*i.e.*, emission test runs) to fall below within a specified level of confidence, based upon the results of an independent sample from the same population. In other words, if we were to randomly select a future test condition from any of these sources (*e.g.*, average of 3 runs) we can be 99 percent confident that the reported level will fall at or below the 99 percent UPL value. We note that the methodology accounts for both short-term and long-term variability and encompasses run-to-run and test-to-test variability.

For this rule, we used the 99 percent UPL analysis on the emissions data for the top performing sources to account for the variance. In the context of determining the MACT floor, the 99 percent UPL represents the value below which the mean of future compliance tests (based on, for example, a 3-run average) would fall 99 percent of the time. A 99 percent level of confidence means that a facility, whose emissions are consistent with the best performing sources, has one chance in 100 of exceeding the emission standard.

We believe that using the 99 percent UPL is appropriate for this rule. As noted above, this approach is consistent with several other previous rulemakings. It also makes sense from a practical standpoint. If we selected a lower number (*e.g.*, 95 percent UPL) this would mean that a best performing source that is performing at the MACT level of control would potentially exceed the limit 5 percent of the time—which we do not believe is a reasonable approach for this rule. *See Mossville*, 379 F.3d at 1241–42); *see also* 70 FR at 59438 (Oct. 12, 2005) (explaining use of 99th percentile). With regard to the commenter's statement that no sources among the best performers would ever exceed the MACT standard, we believe this is incorrect. The commenter provided no basis for this statement, and we do not believe the commenter based this statement on an analysis of the variability in the data.

We do not believe that the UPL analysis reflects the statistical worst performance the top five performing sources could have. The UPL calculation is dependent on the data that we have, and reflects the actual variability in the test data for the best performing sources. It does not reflect worst-case performance. We continue to believe that the UPL does yield an accurate picture of the best sources' performance as best as possible with taking into account variance between the facilities, units at the facilities, and between test runs for the different units (including variability in input materials).

Furthermore, although the average of several data sets may show a top performing source meeting the emission standard by a significant margin, the variability in emissions inherent in any one compliance test could easily indicate much higher emissions, and, in some cases, an exceedance of the emission standard. We continue to believe that the UPL analysis evaluated at 99 percent confidence is appropriate for this source category.

Moreover, we believe the data we used to calculate the MACT standards are representative of the normal performance of the best performing sources for several reasons. First, the test results that we are using in our MACT database are tests conducted under Nevada's mercury emission control program, and are conducted to determine whether a facility is in compliance with State requirements. Facilities typically try to perform as well as they can during such tests. State (and often EPA) permitting authority staff are notified before a performance test is conducted to provide an opportunity to attend and observe the test, and they often attend to ensure the source is operating properly and that the testing is performed according to the strict requirements in the codified test methods.

Test reports are carefully reviewed by the permitting authority, and any failure to follow the test method or abnormal operation of a source is flagged. These data are usually invalidated, and invalidated tests are not used in our MACT standard calculations. For example, several tests from these facilities were invalidated by the NDEP because the specified testing procedures were not followed or the emission control device was not operating properly, and we have not used those results in our analysis for those reasons. We have collected additional data from test reports not available at the time of proposal, and one of those tests was invalidated because NDEP representatives discovered that the emission control device was not operating properly during the test. Therefore, we also did not use those test data.

The commenter believes that floors must be set at the average emission level

[4] Run-to-run variability is essentially within-test variability, and encompasses variability in individual runs comprising the compliance test, and includes uncertainties in correlation of monitoring parameters and emissions, and imprecision of stack test methods and laboratory analysis. 72 FR at 54877 (Sept. 27, 2007). Test-to-test variability results from variability in pollution device control efficiencies over time. Test-to-test variability can be termed long-term variability. 72 FR at 54878.

achieved by the best performers when they are operating properly. We agree that the performance data characterizing the emission level achieved by the top performers must be data obtained when they are operating properly, and we believe that is the case for our current database for this source category.

As described above, the MACT floor is based on the average performance of the top performers plus an amount to account for variability. We have appropriately developed a MACT standard based on emissions from the top 5 best performing sources that accounts for variability because, over an extended period of time, the emissions from each of these best performing facilities (even the best controlled) will vary above and below the facility average. For example, we expect that about half of the duration of the year the emissions from a best performing facility would be somewhat below their average and that about half of the duration of the year their emissions would be somewhat higher than their average. If we set the MACT limit exactly equal to the average emissions level achieved by the best performers (without accounting for variability), and we had a source that was performing at exactly the MACT level over the course of the year, the measured emissions level on roughly half the days of the year would suggest that the source is emitting at levels above the MACT limit, and on about half of the other days of the year the measured emissions level would suggest that the source is emitting at levels less than the MACT limit. We reasonably and appropriately accounted for variability in the data consistent with established statistical theory and practice and judicial precedent. Finally, ignoring variability of the best performing sources and using only the average performance would virtually guarantee that some of even the best performers would exceed the floor limit at least some of the time.

Thus, we developed a MACT standard based on the average of the best performing sources that accounts for variability. We accomplished this by calculating the MACT standard from this average performance and accounting for variability by using the 99 percent UPL. The specific calculations are presented in the MACT floor document in the docket for this rulemaking. Furthermore, we agree with the comment that one of the points of having emission standards is to ensure that sources not only deploy the appropriate control measures, but also use those control measures consistently to minimize emissions. We believe that the MACT standards established in this rule along with the requirements to monitor and maintain control device parameters within certain ranges will ensure control measures are applied consistently to minimize emissions.

Comment: Another commenter stated that consideration should be given to defining the inherent range of measurement error and requiring more test runs in order to reduce variability due to process variation. The commenter said that this would also better clarify when variability was due to operational controls, which could be addressed, rather than due to factors that cannot be controlled, such as mercury content in the ore. The commenter asked for clarification on how inconsistent runs should be treated, what defines an acceptable set of runs, and at what point more runs would be required to provide reliable data.

The commenter also stated that the degree of variability allowed in the development of the new source limit for ore pretreatment appears to be out of line with the new source limits for carbon processes and non-carbon processes. The commenter believes that ore pretreatment variability for new sources is higher than existing sources because low thermal units were included in the same category, high emissions were allowed in the data set, and variable emissions were allowed in data set. The commenter recommended that, if EPA continues to use Goldstrike as the best performing source for new source MACT, then they should re-evaluate and reduce the variability to be equal to or less than the variability for existing sources.

Response: We agree with the commenter that the testing process would be more accurate if the number of test runs was increased. However, we balance several factors in determining the minimum number of runs required, and because the compliance testing is supplemented by various types of continuous or periodic parametric monitoring, we have concluded that three test runs are appropriate for this final rule. Although we have not proposed a formal procedure to assess the consistency of test runs, the permitting authority performs routine reviews of compliance test data to identify potential outliers and results that suggest further investigation is needed. For example, a routine review tracks trends in performance, and in particular, flags any trends in deteriorating performance over time. An unusually high run among the three runs also attracts attention and would be examined to determine if it might have been caused by a problem with the process, control device, sampling, or analysis. If the permitting authority identifies inconsistent runs, they have the authority to invalidate any or all runs. A source would be required to perform more runs to provide reliable data if two to three runs were invalidated.

We agree with the commenter that the degree of variability used in the development of the proposed new source MACT standard for the ore pretreatment group appeared to be inconsistent with the degree of variability used in the development of the proposed new source MACT standard for carbon processes and non-carbon concentrate processes. We agree with the commenter that the ore pretreatment degree of variability at proposal for new sources was higher than the degree of variability for existing sources. We do not believe that the variability was higher because low thermal units (*i.e.,* autoclaves) were included in the same category, but because two tests of the ore preheater/dry grinding processes at Goldstrike were allowed in the data set. These tests had, as the commenter identified, inconsistently high emissions (as compared to other tests at other times for the same units) and inconsistent variability between the runs. We have determined that the tests the commenter is referring to are not representative of normal operation, and those tests have been removed from our database because the NDEP invalidated the tests due to possible sample contamination. (*See* the MACT Floor Document in the docket for the final rulemaking for more details). We continue to use Goldstrike as the best performing source for the ore pretreatment new source MACT, and the variability for new source MACT is now less than that of the variability for existing source MACT, and is less than the variability calculated at the time of proposal.

2. General Comments on MACT

Comment: Some commenters stated that the MACT floor already represents installation and operation of MACT controls, and the use of emissions data from facilities that are already controlling their mercury emissions creates an artificially low MACT floor. The commenters said that the low MACT floor penalizes facilities that voluntarily invested in pollution control technology and creates a substantial disincentive for industry and States to move ahead of EPA in reducing emissions of HAP.

Response: We acknowledged at proposal that many gold mine facilities are already well controlled for many

reasons, including participation in the NMCP. We also acknowledge that the top performing facilities that are the basis for the MACT floor calculation are the top performers because they have installed controls. CAA section 112(d)(3)(B) requires that, for a category with fewer than 30 sources, the MACT floor not be less stringent than "the average emission limitation achieved by the best performing 5 sources (*for which the Administrator has or could reasonably obtain emission information*)." (Emphasis added). EPA has information on the well-controlled facilities and used the information to conduct MACT floor analysis, as required by the CAA. Although the MACT floor may be considered more stringent in comparison to floors that would have been established if no facilities had mercury emission controls, we do not consider the floor to be "artificially low" because consistent with the statute, it reflects the level achieved in practice by the best performing sources. *See* 112(d)(3). We do not believe that the MACT floor penalizes facilities that invested in pollution control technology because those facilities will be able to meet the MACT standards. We do not consider that this final rule creates a disincentive for industry and States to move ahead of EPA in reducing HAP emissions because as facilities reduce mercury emissions by adding controls required by State programs, they will be able to meet the NESHAP. Most of the facilities that will not meet the current final standards have already proposed to add controls to their units in their Phase 2 applications for the NMCP.

3. MACT for the Ore Pretreatment Group

Comment: Several commenters supported EPA's general approach to establish three groups of affected sources in the proposal. On the other hand, several commenters suggested that EPA develop separate emission standards for roasters and autoclaves for existing and new sources. One commenter stated that roaster and autoclave processes are different from each other based on the mercury species released, controls utilized, and their rates of mercury emissions. The commenter said that roasters commonly reach temperatures of 400° to 700°C, releasing gaseous elemental mercury, whereas autoclaves commonly reach temperatures of 175° to 230°C producing reactive gaseous mercury and sulfate and forming mercury sulfate. According to the commenter, autoclaves are expected to be able to improve efficiency over time. The commenter noted that roasters produce one to two orders of magnitude higher emissions than do autoclaves. The commenter believes that facilities that only use autoclaves should not be allowed the leeway to emit at the rate that facilities employing roasters are allowed. The commenter recommends that the ore pretreatment group be divided into high temperature pretreatment processes (roasters) and low temperature pretreatment processes (autoclaves and ancillary roaster processes, such as dry grinding, pre-heating, and quenching).

Response: We discussed in section V.A. of the preamble to the proposed rule our rationale for establishing the different affected sources, including the ore pretreatment processes affected source. We believe it is appropriate to maintain the ore pretreatment group affected source, as we had proposed. We do not agree with the comment that roasters necessarily have higher emissions that are one to two orders of magnitude higher than emission from autoclaves. The available data show a wide range in emissions from autoclaves (from 0.4 to 115 lb/million tons of ore). This range overlaps the range for roasters and their ancillary equipment, which have combined emissions between 42 to 71 lb/million tons of ore. Regardless of the mercury species released, controls utilized, operating temperatures, or control efficiency over time, autoclaves and roasters process the same input material (*i.e.*, ore) and are intended for the same purpose (*i.e.*, to oxidize the ore). Therefore, we believe that it is appropriate to maintain the ore pretreatment affected source as we had proposed, keeping roasting operations and autoclaves together.

Comment: One commenter stated that EPA failed to consider beyond-the-floor standards for roasters and that if additional reductions are achievable at roasters, then EPA must set additional beyond-the-floor standards for roasters.

A commenter also stated that although EPA's standard for new ore pretreatment facilities is as high as its standard for existing facilities, EPA does not propose or discuss setting beyond-the-floor standards for new sources. The commenter claims that EPA has a statutory obligation to ensure that its new source standards reflect the maximum achievable reduction in emissions.

Response: Following proposal, we continued to investigate the performance of facilities with ore pretreatment processes and opportunities for additional control. We collected data from more recent tests that were not available at proposal, and these new data show that emission control performance at these facilities has continued to improve. We identified two previous tests in the proposal database that were suspect, and we confirmed with NDEP that these tests should be invalidated and not used in the analysis because of possible sample contamination. We have also dropped the data for one facility from the analysis because their autoclave was shutdown in 2007 and dismantled, and we only had one test of the autoclave when it was operating in 2006. For these reasons, we did not include data for that facility in the analysis, which is now based on the only four facilities currently operating.

Based on the addition and change described above with respect to our available data, we revised the MACT floor analysis for the ore pretreatment processes. The revised MACT floor for existing sources decreased from 175 lb/million tons at proposal to 158 lb/million tons, and the new source MACT floor dropped from 163 lb/million tons to 84 lb/million tons.

The MACT floor limit for existing ore pretreatment processes is based on the use of calomel-based mercury scrubbers on roasters and wet scrubbers on autoclaves and ancillary roaster operations. We conducted a beyond-the-floor analysis during the development of the proposed rule. The roasters were already equipped with very good mercury controls (condensers and calomel-based mercury scrubbers), and we did not identify any beyond-the-floor options for the roasters. However, we identified as a beyond-the-floor control for autoclaves the installation of both a refrigeration unit (or condenser) and a carbon adsorber. We continue to believe that the roasters stacks are well controlled, but since our proposal, we have identified a beyond-the-floor control option (carbon adsorption) for the ore pre-heaters/dryers (ancillary roaster operation) that could achieve additional emissions reductions of approximately 70 percent (or more) for those units. Two of the three facilities with roasters have already proposed in their NMCP Phase 2 permit applications to apply controls to their preheaters/ore dryers, and these two companies have submitted cost estimates for applying a carbon adsorption system. Using the cost estimates submitted by the affected facilities, we estimate the capital costs for control of roaster preheaters/dryers for the three facilities with roasters as $3 million with a total annualized cost of $1.6 million per year. We also estimate a reduction of 118 lb/yr of mercury emissions would be achieved at an overall cost effectiveness of about $13,800 per pound of mercury. We

believe that these costs and cost effectiveness are reasonable. As required under CAA section 112(d)(2), we have also considered non-air quality health and environmental impacts and energy requirements of this additional control. We conclude that this is an acceptable beyond-the-floor control technology for existing roaster preheaters/ore dryers. Therefore, we included the beyond-the-floor control for ore preheaters/dryers, as well as the beyond-the-floor control for autoclaves, in determining the MACT standard in this final rule for existing sources of ore pre-treatment processes. After applying the appropriate variability analyses to the data, we determined that the MACT standard for existing sources is 127 lb/million tons of ore.

As mentioned above, we have revised the new source MACT floor. We also did a beyond-the-floor analysis for new sources in the ore pre-treatment processes group. However, we did not establish the MACT standard for new sources based on this beyond-the-floor analysis because we did not identify a feasible and cost-effective option to achieve reductions greater than the new source MACT floor. Therefore, for new sources of ore pretreatment processes, the MACT "floor" is the MACT standard for the affected source. The final new source MACT standard is 84 lb/million tons of ore, which is considerably more stringent compared to the proposed standard of 149 lb/million tons of ore and reflects the maximum achievable reduction in emissions.

Comment: One commenter stated that the proposed estimated capital costs of $890,000 and total annualized cost of $720,000 for beyond-the-floor autoclave controls are not representative of actual costs of installing a refrigeration unit (or condenser) and a carbon adsorber on autoclaves. The commenter estimates that capital costs for autoclave controls will range from $18 million to at least $30 million, and annual operating costs could range from $2 million to $60 million, depending on which controls, if any, are determined to be technically feasible. The commenter believes that based on these cost estimates, beyond-the-floor MACT controls would be cost prohibitive and are not justified for the ore pretreatment affected source group.

Another commenter estimated that for the installation of carbon adsorbers on their autoclaves to control mercury emissions, the capital costs would range from $30 million to $35 million, annual operating costs would be $2 million per year, and the annual energy requirements would be 11,400 megawatt-hours per year with an annual energy cost of $900,000.

Response: After reviewing the new cost estimates provided by the commenters, we agree that capital and total annualized cost estimates of the beyond-the-floor controls on autoclaves in the proposal were underestimated. We evaluated the detailed cost estimate based on an engineering study for a carbon adsorption system provided by one of the commenters (see details in the comment above on capital, operating, and energy costs), and our review of these details indicates it to be a reasonable cost estimate and more representative. Therefore, we have used this estimate as the basis for our estimate of the costs of the beyond-the-floor mercury emission controls for autoclaves. Our revised estimates are that the capital cost for installing carbon adsorbers on autoclaves would be $29.3 million, with a total annualized cost of $4.9 million per year, which would result in an estimated reduction of 431 lb/yr of mercury emissions per year and an overall cost effectiveness of about $11,000 per pound of mercury. Based on these new costs and estimated reductions we conclude that the beyond the floor controls are affordable and justified for the ore pretreatment affected source.

Comment: Several commenters noted that, at the proposed new source MACT limit of 149 pounds/million tons of ore, the proposed new source Donlin Creek Mine, located in Alaska, would be allowed to emit 3,200 lb/yr of mercury based on a projected production rate of 22 million tons/yr of ore.

Response: With respect to this proposed new gold mine in Alaska, the commenters' estimate of 3,200 lb/yr of mercury emissions is inaccurate and a significant overestimate for a number of reasons. The two primary reasons are that, based on available information, if the facility is built, only an estimated 15 percent of the ore mined will be processed in autoclaves (not 100 percent as assumed by the commenters), and that the commenters' estimate is based on assuming that the average emissions level for the facility throughout the year would be at the maximum allowed at the proposed new source limit (149 lb/million tons of ore), which has been significantly reduced since proposal.

With the new source MACT standard in the final rule that is about two times more stringent (*i.e.*, lower) than the proposed MACT standard, along with corrections described above, we estimate that far less than 3,200 lb/yr would be emitted from this new source if it is ever built. Assuming continuous operation for 365 days per year, an estimated 21.5 million tons/yr of ore mined, about 3.2 million tons/yr processed in autoclaves (15 percent), and assuming the source would emit at the average emission level used to calculate the revised new source MACT (45 lb/million tons of ore), we calculate that mercury emissions would be about 144 lb/yr, which is about 5 percent of the estimate provided by the commenters. Considering that the facility has yet to go through the permitting process and that, if it is built, it will likely include emissions controls that would reduce the emissions below 45 lb/million tons of ore, we believe that, if the facility is built, emissions would quite likely be lower than 144 lb/yr.

4. MACT for Carbon Processes

Comment: Several commenters objected to including Facility M in the MACT floor determination for new and existing sources in the carbon processes affected source because it is not representative of, or similar to, other sources, because it has unusually low mercury concentrations in its ore, and no need for a retort to remove and recover mercury. They noted that, because the mercury content of the gold ore is fixed, the only way for other facilities to reduce emissions of mercury is to apply mercury emission controls, but, for many facilities, emission controls will not be enough to meet the proposed MACT standard. The commenters stated they were aware that the DC Circuit Court had constrained EPA's discretion to set floors that fail to consider material inputs, but they said gold mines were different from the remanded source categories (brick kilns and cement kilns) because gold mining operations process very large quantities of ore, and the ore is the only material input that results in mercury emissions. The commenters stated that, in adopting section 112, Congress expressly cautioned EPA against setting standards that would require mining operations to change the ore used as essential feedstock. The commenters said that, by ignoring the mercury content in the ore being mined and processed at the facilities in the MACT floor determination, EPA is requiring facilities to consider the substitution of, or changes in, the ore that is processed because there is no other way to achieve the standard. The commenters recommended that EPA address, as a threshold matter, the differences in processing and emissions across facilities that result from the variable concentration of mercury in ore. The commenters recommended that Facility M not be considered the "best controlled similar source" for purposes of setting the new source MACT floor because the

facility is not similar to other sources. The commenters stated that, if EPA does not exclude from the source category facilities that do not use retorts to process concentrate, then they should subcategorize them.

Response: After consideration of comments and a re-examination of the design of the facilities at issue, the emission controls, and other factors affecting emissions from the carbon processes at Facility M, we agree that this facility is quite different and unique compared to most other gold mine ore processing and production facilities, including other facilities in Nevada, in its carbon process. The difference is manifested in the processing train in that mercury retorts are not needed or used at Facility M to recover mercury. As the commenter notes, the CAA allows EPA to "distinguish among classes, types and sizes of sources within a category" in developing MACT emission standards, and gold mine facilities without mercury retorts are different in both class and type from those with mercury retorts. Accordingly, in the final rule, we identify and set separate MACT standards for these two different types of carbon processes: those that use mercury retorts; and those, such as the carbon process at Facility M, that do not use mercury retorts.

As part of our re-analysis of the MACT floor and the MACT for sources that are in the carbon processes with mercury retorts group and sources that are in the carbon processes without mercury retorts group, we considered new data that were not available at the time of proposal. Over the past one to two years since our data collection effort for the proposal, facilities in Nevada have continued to add controls and improve emission control as part of the NMCP. The new data indicate there were two facilities with carbon processes without mercury retorts operating in 2009. Using the data from these two facilities, we determined that the MACT floor limits for carbon processes without mercury retorts are 0.17 lb/ton of concentrate for existing sources and 0.14 lb/ton of concentrate for new sources (based on the best performing facility, Facility M).

In our beyond-the-floor analysis, we considered the addition of a carbon adsorber on an uncontrolled emission unit within an existing affected source. We estimate the capital cost as $210,000 with a total annualized cost of $72,000 per year, an emission reduction of 1.63 lb/yr of mercury, and a cost effectiveness of $44,000/lb of mercury. We do not believe that the small emission reduction that this control option would achieve is justified in light of its cost. We therefore decided not to go beyond-the-floor. We also considered possible beyond-the-floor options for new carbon processes without mercury retorts, but concluded these options were not cost-effective or feasible. Therefore, for new and existing sources of carbon processes without mercury retorts, the MACT floor limit is the MACT standard for this affected source.

As part of our re-analysis for the carbon group processes with mercury retorts, we collected and evaluated additional data. As discussed above, several of the facilities have improved emission control over the levels observed in the database we used at proposal. Two facilities with newly-installed controls replaced two higher-emitting facilities that were in the top 5 at proposal, and all three of the other facilities that remained in the top 5 had lower levels of emissions after considering the new data. The results are that the MACT floor limits for carbon processes with mercury retorts are 2.2 lb/ton of concentrate for existing sources and 0.8 lb/ton of concentrate for new sources (based on the best performing facility, Facility N). In the beyond-the-floor analysis, we evaluated the impacts of adding a second carbon adsorber in series with the controls applied to achieve the MACT floor level of control. We estimate the capital cost would be $3 million with a total annualized cost of $1.3 million per year, an emission reduction of 9 lb/yr of mercury, and a cost effectiveness of $150,000/lb of mercury. Because of the small emission reduction and high cost effectiveness associated with this additional control, we decided not to go beyond the floor. Therefore, for existing sources of carbon processes with mercury retorts, the MACT floor limit is the MACT standard for this affected source. We also considered possible beyond-the-floor options for new carbon processes with mercury retorts, but concluded these options were not cost-effective or feasible.

5. Compliance Alternative for New Carbon Process Sources

Comment: One commenter noted that the compliance "alternative" of 97 percent would be unlawful unless EPA specified that carbon sources had to meet the more stringent of either the floor standard or a 97 percent reduction standard. The commenter stated that because floors must reflect the emission level achieved by the best performing sources, allowing sources to meet a 97 percent reduction standard that was less stringent than the emission level actually achieved by the relevant best sources would contravene section 112(d)(3) and well-established D.C. Circuit court precedent.

One commenter supported EPA's use of the percent control alternative to the new source MACT for the carbon group. The commenter believes that the percent control alternative for new source carbon group MACT should also be available as an alternative to the existing source MACT for the carbon group.

Another commenter stated that another facility, which has an average mercury reduction efficiency level of 99.995 percent, represents the "best controlled" similar source for the carbon process group and should be the basis for the alternative limits for new carbon processes.

Several commenters requested clarification of the way in which compliance with the alternative for percent reduction would be demonstrated for new sources when there are multiple control devices on an emission unit.

Response: We eliminated in the final rule the compliance alternative of 97 percent reduction for new carbon processes. After reviewing the comments received on this standard and giving further consideration to the practicality of how it would be measured, we concluded that this option would be difficult to implement, particularly when multiple processes that are operated at different times vent to a single control device and stack. In addition, we have limited data supporting this compliance alternative. In proposing this alternative for comment, we had hoped to, but did not receive additional data indicating that the 97 percent reduction option would be equivalent in stringency to the proposed new source limit of 0.14 pounds of mercury per ton of concentrate. Largely due to the reasons stated above, we have eliminated the 97 percent control efficiency option for new carbon processes in the final rule. In addition we are not allowing this percent reduction to be used for existing carbon sources. We also note that the facility that one commenter identified as having an average mercury reduction efficiency level of 99.995 percent is now being used as the "best controlled" similar source for the final MACT standard for new carbon processes with mercury retorts.

D. Compliance Determinations

1. Timing for Compliance Determinations

Comment: Several commenters requested that the compliance deadline for existing sources be 3 years after the effective date of the rule, rather than the 2 years proposed. The commenters noted that several facilities will have to install control devices to achieve the MACT floor limits that have been proposed. The commenters explained that the controls must be custom designed for the unique characteristics of each process and associated process streams at each facility and stated that it can be time consuming and difficult to design, procure, construct, and implement emission controls to ensure effective operation for the particular source.

Response: After reviewing the information provided in public comments on the challenges of retrofitting new controls, we believe that allowing 3 years for existing sources to comply is appropriate. Given the complexity of the sources, the combinations of control devices that are needed in many cases, and the amount of time necessary for designing, installing, testing, and commissioning additional emission controls for mercury, we conclude that 2 years may not provide adequate time for existing sources to comply with the final emission standards.

Comment: Several commenters recommended that the rule specify that source testing results be used to determine compliance for the calendar year in which the test was conducted rather than to determine compliance for the prior 12 months. The commenters suggested that the source test results be applied to the hours of operation at the end of the calendar year to determine the source's compliance with the MACT standard on an annual basis, as required in the NMCP. The commenters suggested that, if more than one source test is conducted in a year, the facility should average the mercury emission test results to determine compliance for the calendar year in which the tests were conducted.

Another commenter commented that the annual compliance testing should not be constrained to the same calendar quarter each year. The commenter stated that this can lead to testing during periods of operation that may not represent normal production capacities. The commenter believes that mercury emissions testing should be scheduled for the most appropriate time interval throughout the calendar year.

Response: The permitting authority needs to be able to determine compliance with the NESHAP as soon as possible after the tests are completed and test results are available. Consequently, the final rule requires that initial compliance be determined based on production data and operating hours for all full calendar months between the date the rule is published in the **Federal Register** and the date of the compliance test, and subsequently, annual compliance must be based on production data and operating hours for the 12 full calendar months preceding the compliance test. This allows the permitting authority to determine if the affected source is in compliance in a timely manner. (This is consistent with the way compliance determinations are made in another MACT rule that uses a similar format—National Emission Standards for Hazardous Air Pollutants for Primary Lead Smelting, 40 CFR part 63, subpart TTT.) If compliance was based on a calendar year, as suggested by the commenter, then we would not know if a source is in compliance until after December each year. For example, if a source conducted its compliance test in March, we would have to wait about 9 more months before we could determine if that source was actually in compliance. After those 9 months, if the source was not in compliance, it would mean that the source could have been out of compliance for the previous 9 months.

Moreover, we do not believe that compliance with the NESHAP based on the production data from the 12 months prior to the compliance test would cause problems with reporting under the State program. It is our understanding that the emissions limits in the Nevada State Phase 2 permits are (or will be) based on concentration in the stacks (*e.g.*, micrograms per cubic meter ($\mu g/m^3$)). The limits in this final rule are based either on pounds of mercury per million tons of ore or pounds of mercury per tons of concentrate. Therefore, the companies can continue to report the annual emissions as required under the TRI program and the State program without conflict with this rule.

If multiple compliance tests are conducted during the year, then a compliance determination must be made for each separate compliance test based on the production data and hours of operation for the 12 full calendar months preceding each test (*i.e.*, the results of multiple compliance tests conducted throughout the year are not averaged to provide a single compliance determination for the year).

We understand that the rule, as proposed, may have required all existing sources to conduct their subsequent annual compliance tests in the same calendar quarter, and this may pose a scheduling problem because of the large number of facilities located in the same State (*e.g.*, Nevada). Our concern was that subsequent annual compliance tests, if not separated in time, could be conducted for two different years with little time between the two tests (*e.g.*, only a few days apart for the extreme case where the first test is conducted in late December and the second one in early January of the following year). We are providing scheduling flexibility by requiring that annual compliance tests be at least 3 months apart and no more than 15 months apart, and we are providing a similar separation for the period between the initial compliance test and the first annual compliance test. We do not believe that tracking multiple compliance dates is a particular problem for the permitting authority because that is the case for many other source categories subject to annual compliance testing.

2. Test Methods

Comment: Several commenters supported EPA's proposal of alternate Methods 30A and 30B for demonstrating compliance. One commenter supported EPA's requirement to use Method 29 as an emission test method, but recommended two revisions: Requiring a determination of the absence of cyclonic flow before sampling, and a minimum sampling time of 90 minutes for each test run. The commenter also stated that they do not support the use of the Ontario Hydro Method (ASTM D6784–02), Method 30A, or Method 30B as mercury test methods. The commenter believes that the methods of demonstrating compliance with the emissions standards should be consistent with the methods utilized to establish the emission standards, which were based mainly on Method 29 data. The commenter said that the typical gas streams associated with the gold mining industry have high particulate loadings, high mercury concentrations, sulfur dioxide (SO_2), and contain particulate-bound mercury. The commenter also stated that the alternative methods were not developed specifically for the gold mining industry and their typical gas streams and concluded that the results from the various alternative methods will yield varying results, will not be comparable, and will provide inconsistent reporting of overall mercury emissions.

Response: Method 29 references Method 1, which requires cyclonic flow checks under certain circumstances. Consequently, in the final rule, we have removed the specific requirements for cyclonic flow checks prior to every stack test that were in § 63.11646(a)(1)(vi) of the proposed rule. Owners or operators should follow the requirements in the applicable EPA reference method and any additional requirements specified by the permitting authority.

When specifying the minimum requirements for compliance tests, it is more important to specify a minimum sampling volume than a minimum sampling time because the detection of a regulated pollutant is a function of the volume of the sample rather than the length of time taken to collect the sample. Thus, the final rule does not specify a minimum sampling time. We are also changing the required minimum sampling volume to be 30 dscf rather than the 60 dscf as proposed in § 63.11646(a)(2) because we believe that 30 dscf generally will be adequate for detecting mercury emissions for this industry. Affected facilities should be aware, however, that the minimum sample volume may sometimes result in a failure to detect any mercury (a non-detect) emitted from a process unit subject to the emission standard (for the group of process units within the affected source) because of a mercury concentration at the outlet lower than expected. If the emission testing results for any of the emission points yield a non-detect value, then the minimum detection limit (MDL) must be used in calculating the emissions for that emission point and, in turn, for calculating the sum of the mass emissions for all emission points subject to the emission standard for determining compliance. If the resulting mercury emissions (in pounds of mercury per ton of concentrate, or pounds of mercury per million tons of ore) for the affected source are greater than the MACT emission standard, the owner or operator may use procedures that produce lower MDL results and repeat the mercury emissions testing one additional time for any emission point for which the measured result was below the MDL. If this additional testing is performed, the results from that testing must be used to determine compliance (*i.e.*, there are no additional opportunities allowed to lower the MDL).

After reviewing the information provided by the commenter about Method 29, we agree with the commenter that Method 29 is the most appropriate method for compliance determinations for this source category because of the unique characteristics of these sources. Therefore, we are promulgating Method 29 as the main method for compliance in this rule. Alternative methods, such as 30B and the Ontario Hydro method (OHM; ASTM D6784–02), could be used to demonstrate compliance for this source category if approved by the permitting authority. These alternative methods (such as 30B and OHM) may prove to be more appropriate under certain circumstances. However, we have omitted Method 30A as an option in the final rule, as it is not yet in general use.

E. Monitoring

1. Compliance Assurance

Comment: One commenter noted that EPA's proposed mercury standards are expressed in a format of pounds of mercury per million tons of ore processed and observed that the proposed rule requires stack testing only once a year. The commenter claims that EPA's proposed monitoring requirements would not demonstrate whether sources are in compliance with their emission standards, which renders the rule unenforceable. According to the commenter, the once-a-year stack test would provide no indication as to what a mine's emissions were the rest of the year. The commenter said that a source that failed its stack test would have only one violation of emission standards, even if that test showed that the source likely violated its emission standard throughout the year. The commenter believes that EPA's proposed monitoring requirements would not assure compliance with the proposed emission standards. The commenter also noted that EPA proposed to require sources to monitor their mercury emissions either with CEMs, sampling, or various types of parametric monitoring; however, these methods do not provide direct information about the pounds of mercury emitted. Consequently, none of these monitoring methods could be used to demonstrate whether a source is in or out of compliance with the proposed emission standards.

According to another commenter, all three affected source categories should be required to use CEMS at all times and at all emission points. The commenter stated that the ore pretreatment group especially needs CEMS because of variable levels of mercury in the ore and different operational measures within the control of the facility.

Other commenters supported a requirement for continuous monitoring and said that the CEMS should be incorporated into the compliance regime as well. The commenters believe that, if the monitoring results indicate that the mine is consistently out of compliance for a period of one week without correction, the process unit should be subject to compliance-based penalties and/or shut down until corrections are made and the process unit is back in compliance. According to the commenters, quarterly stack testing should still be required to demonstrate that the CEMS is working.

Response: We recognize the importance of requiring adequate monitoring to assure compliance with the emission standards. Because of the higher mercury emitting potential of the roaster, we proposed the option of mercury monitoring using CEMS or weekly monitoring with PS 12B with associated parametric monitoring as well. We are including in the final rule the option to perform continuous PS 12B monitoring, and, as with the CEMS, associated parametric monitoring would not be required. We are changing the frequency of the proposed weekly concentration monitoring approach for roasters to twice per month (at least 11 days apart) and would allow a facility to conduct a Method 30B test (as an alternative to a PS 12B test), supplemented with continuous parametric monitoring. We changed the frequency because we believe that sampling twice per month, coupled with continuous parametric monitoring, is sufficient for determining that the roaster control devices are operating properly. We added the alternative of using Method 30B because this method directly measures mercury concentration and is a valid means of determining whether the concentration is below the operating limit established during the initial performance test. The twice per month Method 30B measurements will provide a concentration value that can be compared to that operating limit to determine if an exceedance of the operating limit has occurred. Also, if the twice monthly sampling shows repeated deviations over time, EPA could decide at a later date that CEMS or continuous monitoring with PS 12B are appropriate and necessary for roasters.

We disagree with the commenter that the proposed monitoring requirements render the rule unenforceable. Although the mercury concentrations monitoring for roasters along with the parametric monitoring of all control devices on all units do not directly measure pounds of mercury per ton of input, we believe that these actions, along with the annual emissions compliance tests, is still an acceptable approach to assure

compliance with the emission standards all year long. Parametric monitoring of control devices assures that the control devices are operating properly (and reducing emissions) on an ongoing basis. Any exceedance of the parameter limits or operating limits triggers corrective action. If corrective action does not return the mercury concentration within the established limits, the plant must conduct a full compliance test and determine if the source is meeting the mass-based (lb/million tons of ore) emission standard.

We do not believe that we should include CEMS as a monitoring option for the non-roaster sources. These sources have less potential mercury emissions, and requiring CEMS on all these other units would be quite costly and burdensome. Moreover, most of these other units are, or will be, controlled with carbon adsorbers, and the carbon adsorber monitoring required by the final rule is an effective means of ensuring the controls are working effectively on a continuing basis. We consider that either frequent testing of carbon beds to monitor for breakthrough using Method 30B, or frequent adsorbent sampling for mercury content, is an effective way to ensure these mercury control systems are operating properly on a continuing basis. The final rule also requires parametric monitoring of wet scrubbers that are considered the final mercury control (*i.e.*, not followed by a carbon adsorber or calomel mercury scrubber). We believe that annual tests coupled with appropriate parametric monitoring of the wet scrubbers are sufficient to ensure emissions are properly controlled on a continuing basis.

With regard to the comment that quarterly stack testing should be required for facilities using a CEMS, we believe that following the Quality Assurance (QA) procedures detailed in 40 CFR 60, Appendix F, are sufficient to ensure the CEMS continues to operate as designed, and in this case, additional stack sampling is not necessary.

2. Operating Limits

Comment: One commenter stated that the operating limits for roasters and for carbon adsorbers are inappropriate and set up a second set of MACT standards. The commenter claimed that the operating limits do not take into account the effects of: Hours of operation of a process unit on mercury emissions; reduction in performance of a process unit offset by an improvement in performance of another process unit; variability in the exhaust gas flow rates with no appreciable effect on the corresponding mercury emission rate; and variability in the inlet mercury concentrations to a carbon adsorber. These factors all result in variability in the outlet mercury concentration. The commenter also noted that the proposed operating limit for carbon adsorbers could result in premature carbon change out, resulting in the generation of more waste. The commenter recommended that EPA defer to the Nevada state monitoring requirements and only provide for monitoring of throughput and annual mercury emission testing to demonstrate compliance with the MACT emission standard. The commenter believes that any operating limit parameters must be established based on manufacturer specifications and recommendations in coordination with the permitting authority and not based on values measured during source compliance testing.

Response: We proposed the mercury operating limits as a monitoring tool to ensure that the processes within individual affected sources and their associated control devices are functioning properly on a continuing basis and not as a second set of MACT standards. We developed emission standards for four affected sources, and the emission standard for an affected source applies to the sum of emissions from all process units within the affected source. One unit could have an upward fluctuation in mercury concentration, but the group of process units could still meet the MACT limit. We see the value of the operating limit approach as sufficient to detect significant increases in emissions and as a valuable tool to ensure the control devices are operating effectively and provide quick notification of a potential problem with controls or emissions. The monitoring parameters are used as compliance indicators, and the relevant mercury operating limits are the main "triggers" of a possible emissions increase and are set to alert facility operators when emissions are greater than the corresponding mercury operating limit. We believe it is important to have such monitoring in the rule to ensure the control devices are working properly.

Regarding specific comments about monitoring the carbon adsorber, the State of Nevada has had good results with conducting sampling of the carbon adsorber to maintain its performance. The final rule offers an additional option of measuring the mercury concentration exiting the carbon adsorber that also achieves the same objective of avoiding breakthrough of the bed. We do not expect sudden dramatic failures of this technology. Instead, we expect to obtain close control of performance by ensuring that the carbon is changed in a way that prevents breakthrough. This monitoring methodology should also prevent premature replacement of the bed.

We disagree with the comments that only monitoring for throughput and annual emissions testing are sufficient to demonstrate compliance with the MACT standards. Such an approach does not yield sufficient data to assure compliance with the emission standards either directly or indirectly by assuring that the control devices are operating properly. The parametric monitoring and operating limits specified in this final rule provide assurance that control devices are properly operated and maintained between emissions tests, and exceedances of the operating limit require corrective action. With regard to the comment that any operating limit parameters should be based solely on manufacturer specifications and/or in consultation with the permitting authority, we have provided various options in this rule for establishing control device parameter limits. Control device operating parameter values sometimes are site-specific and are associated with a level of emissions from the source. Therefore, it is generally preferable for certain control device parameter limits to be associated with an emissions test that demonstrates compliance with the emissions standards. However, we agree that certain parameters for mercury scrubbers applied to roasters, such as the ranges associated with ensuring the proper chemistry of the scrubber, are best provided by the system's manufacturer. Guarantees of performance are usually conditioned by requiring that the system be operated as designed and specified by the manufacturer, and there is no assurance that a potentially narrow range that would be established during a short performance test reflects the full applicable range of proper operation. We also realize that it may be preferable that the permit authority establish the parameter limits for some of the control devices in this industry because of some of the unique characteristics of the processes and control devices used in this industry and the experience of the permit authority with addressing these sources. Therefore, this final rule allows three options for establishing parameter limits: (1) Based on the initial compliance test; (2) according to the manufacturer's specifications; or (3) based on limits established by the permitting authority.

Comment: Some commenters stated that their established parametric

monitoring programs are sufficient to confirm that mercury emission controls are functioning properly for roasters. The commenters also stated that the NMCP permits have required parametric limits and that additional CEMS for mercury would neither improve the operation of these current controls, nor reduce mercury emissions. The commenters concluded that the operating parameters monitored on a regular basis are key parameters for measuring the efficiency and operation of the mercury controls and that operating each of these units within the optimum ranges ensures that mercury emissions are being effectively controlled.

Response: As discussed above, we do not believe parametric monitoring alone is sufficient for roasters because of the very high mercury emission potential, unless the facility has adequately demonstrated that the mercury emissions from the roasters are consistently very low (*e.g.*, less than 10 pounds per million tons). We have concluded that the combined approach of annual stack compliance testing along with the mercury concentration monitoring and parametric monitoring requirements and options outlined in this rule are necessary to detect excess emissions and to ensure controls are working effectively on a continuous basis. We note that for facilities that choose to monitor the mercury concentration from the roaster with CEMS or continuous PS 12B sampling, they do not have to do parametric monitoring. For facilities that can demonstrate their mercury emissions are less than 10 lbs per million tons of ore, they only have to do parametric monitoring, no mercury concentration monitoring.

3. Mercury Concentration Monitoring for Roasters

Comment: One commenter stated that the proposed provisions for monitoring mercury concentrations in roaster emissions are not based on roaster process and pollution control device operational parameters and would not yield reliable information that can be used for detecting and correcting problems. The commenter also stated that the formula for establishing the mercury operation limit for roasters is not appropriate because it uses an emission limit that is based on emission test data from several process units in addition to the roaster. The commenter recommended using the methods proposed for parametric monitoring of roaster emission control devices for all roasters. The commenter also has concerns about utilizing PS 12A (mercury CEMS) and PS 12B for emissions monitoring purposes because there are terms and conditions listed in the proposed rule that are not fully defined. The commenter also recommended deleting the emissions monitoring requirements for mercury concentration for carbon adsorbers for the same reasons described above for roasters.

Response: We disagree with the comment that monitoring the mercury concentration in roaster emissions would not yield reliable information that can be used for detecting and correcting problems. An elevated mercury concentration in the roaster stack gas indicates that there could be a problem with either the process or the control device, which could result in excess mercury emissions from that unit. Monitoring the mercury concentration in roaster emissions provides a direct measure of the regulated pollutant (mercury). The commenter is correct that the formula for establishing the mercury operating limit for roasters is based on emission tests performed on several processes units in addition to the roaster. However, for the facilities with roasters that will be subject to the requirements to monitor mercury concentration, the roaster is the biggest source of potential mercury emissions within the affected source. Therefore, we conclude that changes in the mercury concentration in the roaster exhaust gases provide a reasonable indication of overall emissions from the affected source. In addition, the operating limit is not used directly to determine compliance with the MACT emission standard. As mentioned above, it is designed to detect elevated mercury concentrations in the roaster stack gas, which could indicate a problem with either the process or the control device. We continue to believe that it is necessary and appropriate to monitor mercury concentration for the largest source of potential mercury emissions in the source category (*i.e.*, the roaster) to detect excursions in emissions that must be addressed when the operating limit is exceeded. By developing the mercury operating limit from the emission standard and compliance test results, an exceedance of the mercury operating limit will indicate a potential increase in emissions and that corrective actions are needed.

As described above, we believe that either continuous mercury sampling or mercury sampling twice per month (coupled with continuous parametric monitoring of the control device) should be required for the roaster emissions. If a CEMS is used, the daily average mercury concentration is calculated by averaging the hourly emissions concentrations during that day. The final rule includes continuous sampling with PS 12B as an option for monitoring roasters. If PS 12B is used for continuous integrated sampling (*i.e.*, without parametric monitoring), the daily average concentration is determined by assigning the mercury concentration measured by the sorbent trap monitoring system (total mass of mercury collected during the sampling period divided by the sample volume) as the daily average value to each of the days covered by the integrated sample.

A third option is based on short-term sampling twice per month (at least 11 days apart) for mercury concentration using either PS 12B or Method 30B, and if this option is chosen, continuous parametric monitoring of the mercury scrubber must also be performed. For this short-term sampling option (twice per month sampling) each measured mercury concentration must be compared to the operating limit to determine if an exceedance has occurred. For the contents of the monitoring plan, see 40 FR 63.8(d)(3) and 40 CFR part 60, Appendix F.

We also disagree that parametric monitoring alone is sufficient for carbon adsorbers. For carbon adsorbers, measuring the mercury concentration exiting the carbon bed is also a direct measure of the pollutant of interest. (The other option as established for years in NDEP operating permits involves sampling the carbon for mercury content.) An elevated mercury concentration indicates that there could be a problem with either the process or the control device, which could result in excess mercury emissions from that unit. We have established exit concentration monitoring requirements in many rules for emissions of organic compounds exiting carbon adsorbers. That monitoring has proven to be effective to prevent or detect breakthrough, and the same principles apply here for mercury.

Comment: Commenters stated that CEMS for gold mining operations are not capable of accurately measuring mercury emissions and that there are three major challenges with the feasibility of mercury CEMS for the gold mining industry: Mercury CEMS calibration, sample transport, and system operability and reliability. The commenters are concerned with the unavailability of a means to calibrate the CEMS for roasters because existing calibrator designs are simply not capable of generating mercury concentrations high enough to provide meaningful upscale calibration points

that correspond to gold mining source characteristics. The commenters noted the unavailability of National Institute of Standards and Technology (NIST) traceable calibration gases and stated that the current calibration standards traceable to NIST do not apply to the full range of mercury concentrations that can be present in the exhaust gases of roasters. The commenters concluded that the lack of a NIST-traceable standard is a fatal flaw that precludes using mercury CEMS to monitor roaster emissions. Regarding sample transport, the commenters said that current designs of mercury CEMS for coal-fired electric generating units require high temperature umbilical lines to transport the sample from the stack to the analyzer and that CEMS on coal-fired electric generating units have seen umbilical failures occur, representing another challenge to having CEMS function consistently for the continuous monitoring of mercury from industrial sources. The commenters were also concerned with the CEMS operability and reliability because mercury CEMS must contain some type of converter to reduce oxidized mercury to elemental mercury and premature catalytic failures periodically occur in these units resulting in several days of missing data. The commenters continued by stating that users reported mercury CEMS to be unavailable as much as 30 to 40 percent of the electric generating unit operating time. The commenters believe the amount of downtime to be expected from these systems on roasters would likely be even higher. The commenter concluded that the breakdown events, combined with the other types of failures, result in data availability that is substantially inferior to parametric monitoring and cannot justify the significant cost and resource investment necessary to install, operate, and maintain these devices.

The commenters are concerned that continuous data reports of mercury emissions that are not accurate, reliable, or credible could be offered as "credible evidence" to assert a violation. The commenter concluded by stating that this concern was particularly troubling in Nevada, where there are separate mercury limits established pursuant to State law.

Response: Regarding the feasibility of using CEMS to monitor mercury emissions from roasters, CEMS have been demonstrated for process units similar to roasters (*e.g.*, coal-fired power plants), and we believe there is no technical reason why they will not work for the roasters. (See NESCAUM, 2010. Technologies for Control and Measurement of Mercury Emissions from Coal-Fired Power Plants in the United States: A 2010 Status Report Northeast States for Coordinated Air Use Management (NESCAUM) July 2010).

Many of the issues with mercury CEMS have been resolved as facilities have gained experience with their use. However, we realize that mercury concentrations in the exhaust gases from roasters can be higher than the range of concentrations for coal-fired power plants, and that the calibration standards traceable to NIST, that have been available in the past, have not applied to the full range of mercury concentrations that can be present in the exhaust gases from roasters. Nevertheless, as we discussed in the proposal preamble, CEMS manufacturers supply calibration standards for the ranges of concentrations seen at roasters.

In addition, the NIST has recently completed certification of a 'NIST Prime' elemental mercury gas generator at concentrations of 41, 68, 85, 105, 140, 185, 230, 287, and 353 $\mu g/m^3$. Mercury gas generator vendors may now submit elemental mercury gas generators for certification to serve as 'Vendor Primes' in a wide range of concentrations. Therefore NIST traceable mercury gas standards can now be made available in concentrations that cover the full range of the concentrations typically measured from roasters.

After consideration of public comments, we continue to believe CEMS are a valuable tool and a reasonable option for monitoring mercury concentrations and comparing those concentrations to the operating limit that is established by CEMS measurements made during the compliance test. However, we also point out that the final rule does not require the use of CEMS; instead, the final rule includes CEMS as one of the three monitoring options. The other two options that we are promulgating for monitoring mercury from roasters are: (1) Continuous monitoring using PS 12B; and (2) twice per month sampling using PS 12B or Method 30B coupled with parametric monitoring. All three of these monitoring options are intended to ensure that emissions from the roasters are not exceeding operating limits, or if they do exceed the operating limits, that corrective actions are taken in a timely manner to bring the emissions down to within the operating limits. If these corrective actions are not successful then the facility must perform a complete compliance test using the methods in section 63.11646 to determine whether the affected source is in compliance with the MACT standard. The CEMs can also be used to help identify problems with control systems and ensure that corrective actions are taken immediately to fix such problems. The exceedance of the operating limit is not intended to determine if the source in violation of the MACT standard. Rather, it would be the subsequent compliance test pursuant to section 63.11646 that would be used to determine if the source is in compliance with the MACT standard.

We understand the commenter's concerns regarding the transport of samples and converter failures. However, we have revised the final rule to give facilities 3 years to comply with the rule which will allow extra time to successfully set-up and operate controls and monitoring equipment to be able to comply with the MACT standards. We believe this will provide sufficient time, for facilities that choose the CEMs monitoring option, to identify and resolve issues with the transport of samples and converters.

Comment: One commenter stated that the regulated industry has no experience with direct measurements of mercury concentrations at the roaster exhaust gas stream. As a result, the commenter believes that there will be problems in collecting data, establishing appropriate timeframes for sampling under PS 12B, maintaining instrument reliability for CEMS, and in establishing confidence in the accuracy of the results reported by these methods. The commenter claimed that the calculated operating limit based on source testing and simultaneous direct measurements may not be reflective of the future daily operations of all the stack emissions. The commenter noted that flow rate measurements are critical in verifying compliance with actual emission limits because sometimes lower flow rates of the stack exhaust gas flow can artificially elevate the mercury concentration in the gas stream with no real effect on emissions. The commenter concluded that any exceedance in mercury concentration should be verified first with a compliance test before halting the roaster production.

Response: We have learned from the comments received that there may be a learning curve for facilities to implement the concentration monitoring procedures. As described in section V.D. of this preamble, we have established in the final rule a compliance date that is 3 years after the effective date of the final rule for existing sources, partly to allow sources time to ensure they can successfully comply with the monitoring requirements, but mainly to allow time to install new mercury emission

controls that we believe will be necessary to meet the emission standards in the final rule.

We agree that mercury concentration measurements are not direct measurements of the emissions rate from the affected source and that flow rate, production, and other factors need to be considered. These are some of the reasons that the operating limit is not being used as a direct measure of compliance with the MACT standards. However, concentration measurements above the operating limit should indicate that either controls are not working effectively or other problems are occurring. In either case, exceedances of the operating limit require investigation and may require corrective actions. The requirement to shut down the roaster has been removed from this final rule. However an exceedance of the mercury concentration does trigger corrective action, and if not corrected requires a compliance test.

Comment: One commenter requested that EPA reduce the weekly Method 12B monitoring frequency to quarterly or at most monthly. The commenter also requested that EPA include a provision that allows for a source to demonstrate a correlation or consistency of performance such that the Method 12B sampling frequency can be further reduced based on the permitting authority's acceptance of the demonstration. The commenter suggested that if multiple Method 12B samples are collected in a single day or over multiple days in the calendar week, then the samples should be averaged, and this average concentration should be compared to the operating limit. The commenter said that, for stacks with high mercury concentration, the sample collection time may be only an hour or two, and in this case, it may be important to collect more than one sample in a single day or over multiple days to obtain a representative mercury concentration measurement.

Response: After taking into consideration the commenter's rationale, under this monitoring option, the final rule requires the sampling of mercury concentration at least twice per month (with 2 samples taken at least 11 days apart) instead of weekly sampling as proposed. If multiple samples are taken during the twice per month period, each result must be compared to the operating limit separately (*i.e.*, not averaged). Otherwise, a high result from a sample taken near the end of the sampling period might not trigger corrective actions to correct a problem that developed at that time if the results are averaged with previous samples during periods of good performance. We do not agree with the suggestion to allow the monitoring frequency to be reduced if the monitoring results demonstrate consistency over the long term. We believe that monitoring the mercury concentration at least twice per month is necessary for roasters to ensure that potential problems with control systems are identified quickly and corrective actions are taken in a timely manner.

4. Parametric Monitoring of Control Device for Roasters

Comment: Some commenters recommended that EPA remove the provisions requiring monitoring of the mercury scrubber liquor flow rate and scrubber pressure drop because each facility that has a roaster has a unique sequence of air pollution control devices, and monitoring parameters that may be appropriate for one roaster may not be applicable to another. One of the commenters said that the scrubber liquor flow rate is not currently monitored, nor is it considered a critical parameter in the daily operation of the scrubber mercury removal tower associated with roasters at their facility. The commenter further explained that the scrubber is not a spray tower, but instead the liquor is recirculated in the tower, so the pump is monitored to insure it is operational. The commenter stated that the pressure drop across the mercury removal tower at its roasters is monitored, but is not considered a critical parameter and that the mercuric ion and chloride ion concentrations that they monitor are the critical parameters that define the effectiveness of the mercury scrubber.

Another commenter added that, for the calomel-based mercury scrubbers, the key parameter is the reagent concentration in the solution exiting the scrubber and that maintaining the exit reagent concentration ensures there is sufficient reagent to react with the mercury vapor. The commenter noted that low exit concentrations indicate that either the liquor flow rate is too low, or the fresh reagent addition rate is too low. Thus, liquor flow rate does not need to be monitored in addition to reagent exit concentration. The commenter stated that if EPA continues to require them, the ranges should be based on the manufacturer's specification or an alternative value approved by the permitting authority, as opposed to the three test runs from the initial compliance test. One commenter recommended that the corresponding range or limit for parametric deviations be applied to a daily average value rather than continuous instantaneous values or single samples.

Another commenter also stated that the requirement to establish the minimum water flow rate and pressure drop of the wet scrubber on readings taken during the performance test should not apply to scrubbers on roasters. The commenter noted that these parameters were intended to monitor for physical processes, and the scrubbers on roasters often include chemical reactions, which are not monitored.

Response: We agree that pressure drop is not relevant to mercury scrubbers because, unlike venturi scrubbers applied to control PM emissions, it is not related to its mercury emission control performance. We have removed pressure drop monitoring from the final rule for mercury scrubbers. However, we continue to believe that it is important to monitor the scrubber flow rate to ensure the scrubber solution is being delivered to the system and that the flow is adequate, which is related to the system's performance. We understand that some facilities monitor mercury scrubber solution line pressure (solution header pressure) as an indicator of flow rate, and we agree this is adequate to ensure proper flow. Consequently, the final rule requires hourly monitoring of scrubber flow rate (or line pressure) for mercury scrubbers on roasters. As with the inlet temperature operating range, the minimum flow rate or line pressure must be established by one of the following three ways: (1) During the initial compliance test, (2) from the manufacturer's specifications, or (3) based on the limits established by the permitting authority. If the facility chooses the option to establish the limits during initial compliance, the final rule requires the scrubber flow rate operating limit to be based on either the lowest value for any run of the initial compliance test or 10 percent less than the average value measured during the compliance test and the inlet gas temperature operating limit to be based on either the highest value for any run of the initial compliance test or 10 percent higher than the average value measured during the compliance test. The final rule requires hourly monitoring and that corrective action is triggered if the flow rate or line pressure falls below the established parameter limit.

Regarding the acceptability of scrubber flow rate and inlet gas temperature parameter values that were approved by permitting authorities prior to this final rule, such values must be established as specified in the final rule

and are not presumed in advance to be acceptable. Note that the monitoring requirements for wet scrubbers in § 63.11647 of the final rule would not apply to the mercury scrubbers on roasters, or any wet scrubber prior to the mercury scrubber on the roasters.

Comment: One commenter believes that establishing a maximum operating temperature for inlet gas concentrations by artificially increasing this temperature during compliance testing may destroy the control equipment, conflict with recommended operating temperatures, and artificially increase the reported mercury emissions. The commenter concluded that these parameters are not deemed critical in the effective operation of a mercury calomel scrubber. Another commenter added that their Compliance Assurance Monitoring (CAM) plan provides for an inlet gas temperature range of 32° to 134 °F to prevent water freezing problems or extremely hot gas temperatures that could damage the mercury scrubber. The commenter stated that mercury scrubbers remove mercury from the gas stream through a chemical reaction and not a condensation mechanism and that lower temperatures will not remove (via condensation) additional mercury. The commenter explained that, although mercury scrubber inlet gas temperature is not a relevant control performance parameter, their facility maintains the inlet gas temperature below 134 °F and monitors the temperature daily to prevent damage to the controls system from excessively low or high gas temperatures.

Response: After additional review of operating permits and consideration of public comments, we have found that the inlet temperature of the mercury scrubber is monitored and maintained within a range to provide operational flexibility with the lower end bounded to prevent freezing and the upper end bounded to prevent damage to equipment, which in turn could lead to excess emissions. In addition, we have learned that this temperature is dependent on the cooling tower water temperature used in the process, and this water temperature can vary quite widely from winter to summer. Facilities may not be able to address the issues described above if they can only use initial compliance testing to establish the inlet temperature operating range, as we proposed. Consequently, the final rule provides the following three ways for a facility with a roaster to establish an operating range for inlet temperature: (1) Based on the maximum inlet temperature during the initial compliance test; (2) from the manufacturer's specifications; or (3) based on the limits established by the permitting authority. If the facility chooses the option to establish the limits during initial compliance, the final rule requires the inlet gas temperature operating limit to be based on either the highest value for any run of the initial compliance test or 10 percent higher than the average value measured during the compliance test. The facility must monitor the temperature hourly, and any exceedance of the upper limit for temperature would trigger corrective action.

5. Exceeding the Operating Limits for Roasters

Comment: One commenter was concerned about the consequences of exceeding a parametric monitoring limit. The commenter remarked that shutting down the roaster for exceeding a monitoring parameter without evidence of an ongoing emission limit exceedance is arbitrary and capricious, unnecessarily punitive, and threatens the economic viability of the regulated sources. The commenter pointed out that the ranges of parameters measured during source testing are not necessarily the only ranges within which the unit can operate effectively. The parameters proposed by EPA are not the best parameters for monitoring roaster emissions and do not directly correlate to mercury emissions or proper control system operation. The commenter also objected to the period of only 45 minutes to investigate and take corrective action.

One commenter recommended that the corrective action response time be extended minimally to 48 hours after daily average values are processed, plus an additional 24 hours to verify the daily average parametric value was within limits. For facilities that conduct PS 12B sampling and a daily average parametric deviation persists for 96 hours, the commenter recommended requiring sampling of the roaster's exhaust using PS 12B within the next 24 hours, then evaluating the mercury concentration results. If the mercury concentration is below the operating limit, then, within 10 days of receiving the analytical results, the facility should be required to either petition the permitting authority for a change in the parametric limits, or provide the permitting authority with a compliance plan that details corrective actions taken to date and the plan and schedule for bringing the parameter back within range. The commenter said that, if the mercury concentration is above the operating limit, the facility will be required to schedule an independent source testing firm to perform a compliance test within 45 days using one of the approved methods described in the rule. The commenter noted that the Nevada State agency requires 30 days to review the testing protocol, and source testing companies typically require 30 days or more advanced notice.

For roasters where direct concentration measurements are not required and a daily average parametric deviation persists for 96 hours, the commenter recommended that within 48 hours, the facility should: (1) Provide the permitting authority with a compliance plan that details corrective actions taken to date and the plan and schedule for bringing the parameter back within the limits; or (2) schedule an independent source testing firm to perform a compliance test within 45 days using one of the approved methods described in the rule. The commenter concluded that, if the test results show that the source has exceeded the threshold of 10 lb/million tons of ore, the facility would be required to implement direct mercury concentration measurements.

One commenter requested that EPA provide an exception from the shutdown requirement when it can be demonstrated that, notwithstanding an exceedance of the parametric operating range, the roaster mercury emissions are less than the operating limit for mercury concentration. The commenter stated that the mercury concentration measurement is a more direct indication of the ultimate mercury emissions that the parametric monitors are designed to address.

Response: We have investigated in greater detail the issues associated with monitoring roasters, and we have consulted with NDEP and the owners and operators of roasters to learn more about appropriate roaster monitoring. We understand that sometimes the ranges of parameters measured during source testing are not necessarily the only ranges within which the unit can operate effectively, that is why in the final rule we are offering two other options for establishing the ranges: (1) Based on manufacturer's specifications; and (2) ranges approved by the permitting authority. We believe that monitoring the scrubber flow rate, inlet gas temperature, and scrubber liquid chemistry, as required in the final rule, are appropriate parameters to monitor. We have also revised the requirements of this final rule to provide assurance that timely corrective actions are taken when a monitoring parameter is exceeded, and we have included requirements for testing for

mercury concentrations to determine if the corrective actions were successful or if a deviation has occurred. The final rule includes parametric monitoring of the mercury scrubbers applied to roasters to control mercury. If a parameter is outside of the established range or limit, corrective actions are triggered. If corrective actions do not result in the parameter reading being corrected and verified within 48 hours, a mercury concentration measurement (using CEMs, Method 30B, 29, OHM, or PS 12B) must be made to determine if the operating limit for mercury concentration is being exceeded. The measurement must be performed and the concentration determined within 48 hours (after the initial 48 hours, or a total of 96 hours). If the measured mercury concentration meets the operating limit for mercury concentration, the corrective actions are deemed successful. In addition, the owner or operator may request approval from the permitting authority to change the parameter range or limit based on measurements of the parameter at the time the mercury concentration measurement was made. If, on the other hand, the operating limit is exceeded, the exceedance must be reported as a deviation and the facility must conduct a full compliance test within 40 days to determine if the source is in compliance with the MACT limit. *See* § 63.11647(d) of final rule.

Comment: For facilities that monitor roasters with a CEMS, one commenter proposed that corrective action be required within 48 hours of receiving and processing the results from the CEMS data, plus an additional 24 hours should be allowed to collect verification data to see if the daily average concentration was restored below the operating limit. The commenter recommended that, if the exceedance persists, the facility should be required to schedule an independent source testing firm to perform a compliance test within 45 days.

For facilities that choose PS 12B monitoring, the commenter recommended that a deviation be considered an exceedance of the operating limit if the average of three consecutive sampling results (three weeks) were above the established limit. The commenter proposed that the facility should then have one week to take corrective actions, an additional week to take the verification sample using PS 12B, with receipt of results the following week (three weeks total). The commenter stated that if the exceedance persists, the facility should be required to schedule an independent source testing firm to perform a compliance test within 45 days using one of the approved methods described in the proposed rule.

Response: After considering these comments on the mercury concentration operating limit and the above discussion on parametric monitoring of roasters, we have made several clarifications in the final rule. If a mercury concentration operating limit is exceeded from either daily average measurements from a CEMS, continuous sampling using PS 12B, or from sampling twice per month (at least 11 days apart) using PS 12B or Method 30B, the exceedance must be reported to the permit authority as a deviation and corrective actions must be implemented within 48 hours upon receipt of the sampling results that show the deviation. Moreover, within 96 hours of the exceedance, the owner or operator must measure the concentration again (with the CEMS, PS 12B, Method 30B, Method 29, or OHM) and demonstrate to the permit authority that the operating limit for mercury concentration has been met, or inform the permit authority that the limit continues to be exceeded. If the operating limit is still exceeded after these 96 hours, the owner or operator must conduct a full compliance test for the ore pretreatment affected source within 40 days to determine if the affected source is in compliance with the MACT emission standard. If the source is determined to be in compliance, the compliance test may also be used to establish a new operating limit for mercury concentration. *See* § 63.11647(a)(1)(ii), (a)(2)(ii), and (a)(3)(ii) of the final rule.

Comment: One commenter requested that EPA provide an exception to the shutdown requirement for facilities that have well-controlled roasters and elect to monitor under the proposed Option 3. The commenter believes a facility should have time (45 days) to demonstrate that the roaster's mercury emissions remain less than 10 lbs of mercury per million tons of ore. The commenter stated that this would be achieved by scheduling an independent source testing firm to perform a compliance test using methods described in the rule, and calculations that demonstrate compliance with the limit of 10 lbs per million tons of ore.

Response: As we have discussed above, the final rule relies in part on parametric monitoring of mercury scrubbers used on roasters to assure compliance with the applicable emission standards, and when the measured parametric values are out of the established operating range, corrective actions must be taken. This is no different for facilities that qualify for the exemption described in § 63.11647(a)(5) of the final rule (*i.e.*, facilities exempt from mercury concentration monitoring by having demonstrated that their roaster emissions are less than 10 lb/million tons of ore). For these facilities, the final rule similarly requires that corrective actions be taken to restore the scrubber operating parameters to the established operating range. If the parameters are not restored to the established range within 48 hours of triggering the corrective actions, the owner or operator must perform mercury concentration sampling of the roaster emissions using PS 12B, Method 30B, Method 29, CEMS or OHM and determine the mercury concentration within 48 hours following the initial 48 hours (or a total of 96 hours from the time the parameter range was exceeded). The measured concentration must be compared to a mercury concentration operating limit that is based on Equation 2 in the final rule, where the value for "C_{trap}" in Equation 2 is based on the mercury concentration for the roaster measured during the most recent compliance test. If the measured mercury concentration meets the operating limit for mercury concentration, the corrective actions are deemed successful. In addition, the owner or operator may request approval from the permitting authority to change the parameter range or limit based on measurements of the parameter at the time the mercury concentration measurement was made. If the operating limit is exceeded, the facility must take corrective actions and report it to the permit authority as a deviation. The owner or operator must also conduct a compliance test within 40 days to determine if the roaster operations are in compliance with the emission standard. *See* § 63.11647(d) of the final rule. We also note that the requirement to shut down the roaster has been removed from this final rule.

6. Carbon Adsorber Temperature Monitoring

Comment: Several commenters stated their concern with the proposed requirement of monitoring gas stream temperature at the inlet to the carbon adsorber and maintaining the inlet temperature below the maximum temperature established during the compliance test. They noted that the primary purpose for monitoring the inlet gas stream temperature of carbon adsorbers is to prevent spontaneous combustion of the sulfidized carbon in the adsorber, not to detect excursions in mercury emissions. The commenters also stated that some carbon adsorption systems heat the gas stream prior to the

carbon adsorber to prevent moisture buildup and/or subsequent condensation in the carbon. The commenters explained that the NMCP already requires that the exit gas temperature of condensers prior to the carbon adsorbers be established to minimize mercury emissions from the condenser. The commenters believe that an increase in inlet gas temperature to a carbon adsorption unit is not indicative of an increase in inlet gas stream mercury emissions because the high operating temperatures of the processes volatilize approximately 100 percent of mercury. The commenters stated that establishing a maximum operating temperature for inlet gas concentrations by artificially increasing this temperature during compliance testing may destroy mercury control equipment; conflict with NMCP requirements and/or manufacturer's recommended operating temperatures; artificially increase the reported mercury emissions; or artificially decrease the allowable operating limit for mercury concentration.

The commenters continued by stating that, if EPA persisted in requiring the monitoring of the gas stream inlet temperature, the maximum inlet temperature limit should be established by either the manufacturer's recommendation and/or concurrence with the permitting authority. The commenters proposed monitoring the inlet temperature once per shift as an option to continuously monitoring the inlet temperature and comparing the daily averages rather than the hourly averages to the operating limit. The commenters noted that many facilities do not have digital acquisition systems capable of recording continuous data, and monitoring once per shift is sufficient to maintain control performance. The commenters suggested that, if corrective action is needed, the facility should be allowed to sample the carbon loading to demonstrate that the effectiveness of the carbon adsorber has not been adversely impacted.

Response: The purpose of monitoring the inlet temperature to carbon adsorbers is not to provide an indication of higher mercury concentrations in the inlet stream as suggested by the commenters. The purpose is related to the fact that temperature is a fundamental parameter that affects the efficiency and capacity of carbon adsorbers. Generally, higher temperatures result in lower capacity and earlier breakthrough and, in fact, high temperatures are used to desorb adsorbed pollutants to regenerate carbon. In the extreme of temperature, the carbon adsorber might actually be desorbing rather than acting as a control device. This is particularly important for those carbon adsorbers applied to high temperature thermal processes, such as carbon kilns and melt furnaces, where it is possible for the exhaust temperature to rise above the normal operating temperature or above the temperature at which the carbon adsorber was designed to operate. For high temperature processes (such as furnaces), and not those such as electrowinning where the temperature may be near ambient conditions, we continue to require monitoring the inlet temperature. Owners or operators must establish an operating limit for temperature based on one of the following: (1) The maximum temperature during the initial compliance test; (2) from the manufacturer's specifications; or (3) based on limits established by the permitting authority. If this established operating limit is exceeded corrective action must be taken and the exceedance reported as a deviation to the permit authority. Further, the final rule requires facilities to monitor inlet temperature once per shift rather than continuously, as was proposed. Because inlet temperatures should not vary greatly over the course of an 8- to 12-hour period, we believe monitoring once per shift is adequate. We also conclude that if a temperature exceedance has occurred, the carbon bed should be sampled or the outlet concentration determined, depending on the monitoring option chosen, within 48 hours to ensure no permanent damage to the carbon adsorber occurred as a result of the deviation. We believe the temperature exceedance should be reported as a deviation even if the subsequent monitoring shows that the carbon bed is operating properly because the subsequent monitoring would not necessarily detect if mercury had been desorbed and excess emissions occurred.

7. Monitoring of Wet Scrubbers

Comment: One commenter proposed that only the scrubber water flow rate monitoring be required for wet scrubbers on the quenching circuits associated with the roaster. The commenter wanted to confirm that wet scrubber monitoring does not apply to wet scrubbers or condensers on roasters. Another commenter asked that EPA confirm that the term "wet scrubbers" does not include condensers, which are used throughout the mining processes for gas cooling to condense water or (in the case of retorts) mercury. Another commenter asked EPA to confirm that wet scrubber monitoring does not apply to wet scrubbers associated with ore preheaters.

One commenter noted that continuous readings on wet scrubbers are unreliable and proposed monitoring the water flow rate and pressure drop once per shift. The commenter noted that if any water flow rate or pressure drop reading exceeds the operating limit, the facility should follow the procedures for operating limit exceedances. The commenter stated that many facilities do not have data acquisition systems capable of recording continuous data and that wet scrubbers are primarily used to control particulates. The commenter concluded by stating that wet scrubbers are not key mercury controls and monitoring once per shift is sufficient to maintain control performance on a continuing basis.

One commenter wanted to confirm that the limits established during testing would not be more stringent than the requirements set forth in the Standards of Performance for New Stationary Sources for Metallic Mineral Processing Plants, which allows for plus or minus 30 percent. Another commenter recommended that the operating limit for wet scrubber monitoring be based on either the lowest average value during any test run or no lower than 10 percent *below* the average value measured during the test.

Response: We are clarifying in the final rule that § 63.11647(h) applies only to wet scrubbers not followed by a mercury control system (*i.e.*, carbon adsorber, calomel mercury scrubber, *etc.*). It is necessary to monitor the primary mercury emission control device, which is the last stage of the exhaust gas cleaning treatment train, to ensure it is operating properly and controlling mercury emissions, and the rule does not require that wet scrubbers in the gas treatment train (typically used for control of PM and/or SO_2) prior to the primary mercury emission control device be monitored under this rule for mercury emissions. However, if there is no carbon adsorber or mercury scrubber, and the wet scrubber in question is the only control device for mercury emissions, the final rule requires that it be monitored once per shift per operating day (*e.g.*, minimum of two times per day) for pressure drop and flow rate with operating limits that are either established during the initial compliance test, from the manufacturer's specifications, or based on approval from the permitting authority (except for pressure drop for autoclaves as discussed above). This applies to wet scrubbers on ore preheaters and quenching if there is no

carbon adsorber or mercury scrubber in the exhaust gas treatment train. As discussed above, the scrubber monitoring for roasters applies to the mercury scrubber (located at or near the end of the exhaust gas treatment train) and does not apply to the wet scrubbers that are used to remove PM and SO_2 prior to the mercury scrubber.

We are clarifying in the final rule that condensers, such as those found at roasters and mercury retorts, are not wet scrubbers. We agree that monitoring and recording the pressure drop once per shift is adequate for monitoring these wet scrubbers to ensure they are operating properly. We disagree that a buffer of ± 30 percent based on a certain New Source Performance Standard (NSPS) subpart is appropriate for this NESHAP for mercury. The comment suggesting an option of a ± 10 percent buffer around the average value during the performance test has merit as an option to only using the lowest value during any individual run as the operating limit. If the system is so stable that it shows very minimal variability during the performance test, we agree that it is appropriate to add ± 10 percent to account for potential future variability. Consequently, we are incorporating this option in the final rule, as suggested by the commenter. However, we are using ± 10 percent rather than ± 30 percent. We are also clarifying for the final rule for wet scrubbers on an autoclave, that facilities must establish the pressure drop range according to manufacturer's specifications.

8. Monitoring of Multiple Units Ducted to One Stack

Comment: Commenters requested clarification that, for facilities that have two roasters ducted together through a shared mercury control system, the mercury concentration monitoring would be conducted on the combined exhaust stream. The commenters also requested clarification that the mercury concentration operating limit for two roasters that share a control system would be established during the simultaneous operation of the roasters in order to account for the combined mercury emissions from both roasters.

Commenters also requested clarification that, for facilities with multiple process units ducted together through a shared carbon adsorber, the mercury concentration monitoring would be conducted on the combined exhaust stream. The commenters also requested clarification that the mercury concentration operating limit for a carbon adsorber for multiple units that share the carbon adsorber would be established during the simultaneous operations of all process units in order to account for the combined mercury emissions.

Response: We agree with the commenters in general and have made the following clarifications in the final rule. If two roasters share a common control device and stack, the mercury concentration operating limit can be based on both roasters operating if possible. However, monitoring for mercury concentration must be performed at the frequency specified in the final rule whether only one or both roasters are operating. We also have clarified that, for multiple process units vented to a common carbon adsorber, the mercury concentration operating limit can be based on all units operating if possible. However, the ongoing mercury concentration monitoring must be performed at the frequency specified in the final rule for whatever units are operating at the time.

9. Monitoring Mercury Concentration in Roaster Ore

Comment: One commenter objected to the proposed requirement to conduct additional compliance testing if the mercury concentration in the ore fed to the roaster is higher than any concentration measured in the previous 12 months. The commenter stated that there would not be an increase in the mercury emissions from their roasters because of the extensive series of mercury controls, some of which operate more efficiently at higher mercury loadings with unchanged stack emissions. In addition, the commenter noted that the rule does not provide details on how to measure the mercury ore concentration or what threshold of significance would be used to show an increase in ore mercury content occurred. The commenter concluded that the requirement would only provide extra cost and burden without any environmental benefit.

Response: We agree with the commenter and have removed this requirement (§ 63.11647(a)(4)(iii) of proposed rule) from the final rule. We have no data showing that the mercury content of the ore has a significant effect on the performance of mercury scrubbers applied to roasters, which are designed to handle and operate efficiently for a range of mercury inlet concentrations. In addition, roasters condense and recover elemental mercury prior to the mercury scrubber, and any increase in mercury loading would likely result in an increase in the recovery of liquid elemental mercury. We have identified and require the monitoring of parameters associated with the scrubber chemistry, and maintaining these parameters within the established range for which the mercury scrubber was designed. This monitoring approach helps ensure that the mercury scrubbers are controlling mercury emission independent of variations in ore mercury content.

VI. Summary of Environmental, Economic and Health Benefits

For proposal, we estimated baseline mercury emissions to be 3,119 lb/yr based on the available emissions data and average process data for the period 2007 to 2009. To estimate the impacts of the final rule, we have revised our baseline mercury emissions estimate to account for the recent installation of new mercury emission controls at two facilities and additional test data received since proposal. As a result of these changes, we now estimate baseline mercury emissions to be 2,636 lb/yr. We estimate the final MACT standard will reduce mercury emissions from gold mine ore processing and production by 1,461 lb/yr from the baseline emissions levels of 2,636 lb/yr down to a level of 1,176 lb/yr once this NESHAP is fully implemented. The annual emissions expected after the MACT standards are implemented (1,176 lb/yr) represent an estimated 77 percent reduction from 2007 emissions (5,000 lb/yr), a 95 percent reduction from the emissions level in 2001 (about 23,000 lb/yr), and more than 97 percent reduction from uncontrolled emissions levels (more than 37,000 lb/yr). The capital cost of emission controls is estimated as $36 million with a total annualized cost of $8 million per year. The capital costs for monitoring, reporting, and recordkeeping are estimated as $0.5 to $1.0 million with a total annualized cost of $0.7 to $1.5 million per year, depending on the monitoring option that is chosen. The overall cost effectiveness is estimated to be about $6,300 per pound of mercury reduced. The cost of compliance is estimated to be less than 0.8 percent of sales for all affected firms. We therefore believe that the economic impact on an affected company would be insignificant. Electricity consumption is expected to increase by about 12,600 megawatt-hours per year due to increased fan capacity for carbon adsorbers and the installation of refrigeration units or condensers on a few process units. Non-hazardous solid waste (spent carbon containing mercury that must be regenerated or disposed of) would increase by about 7 tons per year.

VII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

This action is a "significant regulatory action" under the terms of Executive Order 12866 (58 FR 51735, October 4, 1993) because it may raise novel legal or policy issues. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Order 12866, and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in this final rule have been submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document prepared by EPA has been assigned EPA ICR No. 2383.01.

The recordkeeping and reporting requirements in this final rule are based, in large part, on the information collection requirements in EPA's NESHAP General Provisions (40 CFR part 63, subpart A). The recordkeeping and reporting requirements in the General Provisions are specifically authorized by section 114 of the CAA (42 U.S.C. 7414). All information other than emissions data submitted to EPA pursuant to the information collection requirements for which a claim of confidentiality is made is safeguarded according to CAA section 114(c) and EPA's implementing regulations at 40 CFR part 2, subpart B.

This final NESHAP will require applicable one-time notifications according to the NESHAP General Provisions. In addition, owners or operators must submit annual notifications of compliance status and report any deviations in each semiannual reporting period. Records of all performance tests, measurements of feed input rates, monitoring data, and corrective actions will be required.

The average annual burden for this information collection averaged over the first 3 years of this ICR is estimated to total 483 labor hours per year at a cost of approximately $26,847 per year for the 21 facilities that will be subject to this final rule, or approximately 23 hours per year per facility. Capital costs are estimated as $1.0 million, operation and maintenance costs are estimated as $52,000 per year, and total annualized cost (including capital recovery) is estimated as $360,210 per year for this final rule's information collection requirements. No costs or burden hours are estimated for new sources because none is projected for the next 3 years. Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR part 63 are listed in 40 CFR part 9. In addition, EPA is amending the table in 40 CFR part 9 of currently approved OMB control numbers for various regulations to list the regulatory citations for the information requirements contained in this final rule.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act 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 this rule would not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions.

For the purposes of assessing the impacts of this final NESHAP on small entities, a small entity is defined as: (1) A small business whose parent company meets the Small Business Administration size standards for small businesses found at 13 CFR 121.201 (less than 500 employees for gold mine ore processing and production facilities—NAICS 212221); (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 impacts of this final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This final rule is estimated to impact about 21 gold mine ore processing and production facilities, none of which are owned by small entities. Thus, there are no impacts to small entities from this final rule. Although this final rule will contain requirements for new sources, EPA expects few, if any, new sources to be constructed in the next several years. Therefore, EPA did not estimate the impacts for new affected sources for this final rule.

Although this final rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this final rule on small and large entities. These standards establish emission limits that reflect practices and controls that are used throughout the industry and in many cases are already required by State operating permits. These standards also require only the essential monitoring, recordkeeping, and reporting needed to verify compliance. These final standards were developed based on information obtained from industry representatives in our surveys, consultation with business representatives and their trade association and other stakeholders.

D. Unfunded Mandates Reform Act

This final 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 to the private sector in any one year. This final rule is not expected to impact State, local, or tribal governments. The total nationwide annualized cost of this final rule for affected industrial sources is $9.1 million/yr. Thus, this final rule is not subject to the requirements of sections 202 and 205 of the Unfunded Mandates Reform Act (UMRA).

This final rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This final rule will not apply to such governments and will not impose any obligations upon them.

E. Executive Order 13132: Federalism

This action 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. This final rule does not impose any requirements on state and local governments. Thus, Executive Order 13132 does not apply to this action.

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 this proposed action from State and local officials.

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

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). This final rule imposes no requirements on tribal governments; thus, Executive Order 13175 does not apply to this action. Although EPA requested comment from tribal officials in developing this action, no comments on the proposal were received from tribal governments. However, the reductions in mercury emissions to the environment, which will be achieved by this final rule, will certainly benefit tribal populations within the vicinity of affected gold mine ore processing and production facilities.

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

EPA interprets Executive Order 13045 (62 FR 19885, April 22, 1997) 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. This action is not subject to Executive Order 13045 because it is based solely on technology performance. However, we note that the final rule will result in significant reductions in emissions of mercury, and thus will provide benefits to children's health.

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

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. We have concluded that this final rule will not likely have any significant adverse energy effects because energy consumption would increase by only 12,600 megawatt-hours per year.

I. National Technology Transfer and Advancement Act

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

This final rulemaking involves technical standards. EPA decided to use ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses," for its manual methods of measuring the oxygen or carbon dioxide content of the exhaust gas. These parts of ASME PTC 19.10–1981 are acceptable alternatives to EPA Method 3B. This standard is available from the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016–5990.

Another VCS, ASTM D6784–02, "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)" is an acceptable alternative to EPA Method 29 for this NESHAP if approved by the permit authority. This performance test method is available from ASTM International. *See http://www.astm.org/.*

EPA has also decided to use EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 12A, 12B, 29, 30B, SW–846 Method 7471B, "Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique)," (incorporated by reference—see § 63.14) and ASTM D6784–02, "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources," (incorporated by reference—see § 63.14). Although the Agency has identified 14 VCS as being potentially applicable to these methods cited in this rule, we have decided not to use these standards in this final rulemaking. The use of these VCS would have been impractical because they do not meet the objectives of the standards cited in this rule. The search and review results are in the docket for this final rule.

Under section 63.7(f) and section 63.8(f) of Subpart A 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 required testing methods, performance specifications, or procedures in the final rule.

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

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

EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it will increase the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population.

Additionally, the Agency has reviewed this rule to determine if there were any existing disproportionately high and adverse human health or environmental effects on minority or low-income populations that could be mitigated by this rulemaking. An analysis of demographic data showed that the areas in closest proximity to gold mines are very rural, with low total populations. The population total for block groups which centers are within 3 miles of a gold mine facility is 1,580. At the three mile radius, minority populations and children's populations are underrepresented when compared to national averages, while populations living below poverty are overrepresented. The aggregate average percentages for these groups are 26.3 percent, 30.5 percent, and 26 percent for minority populations, populations living below poverty, and children's populations, respectively. These averages are compared to national averages across block groups for these populations which are 31.8 percent, 12.5 percent, and 25.7 percent. There were only two block groups with centers within 3 miles of any gold mine, and the total population living below poverty was found to be 492.

In determining the aggregate demographic makeup of the communities near affected sources, EPA used census data at the block group level to identify demographics of the populations considered to be living near affected sources, such that they have notable exposures to current emissions from these sources. In this approach, EPA reviewed the distributions of different socio-demographic groups in the locations of the expected emission reductions from this rule. The review

identified those census block groups within a circular distance of a 1, 3, and 5 miles of affected sources and determined the demographic and socio-economic composition (*e.g.*, race, income, education, etc.) of these census block groups. The radius of 3 miles (or approximately 5 kilometers) has been used in other demographic analyses focused on areas around potential sources.[5][6][7][8] Gold mine facilities were assumed to have an average area of 7 square miles and buffered distances were calculated beyond the 7 square mile area to count populations not within the mine boundaries. EPA's demographic analysis has shown that these areas have an overrepresentation of populations below poverty, and an underrepresentation of minority and children's populations.[9]

This action establishes national emission standards for new and existing gold mines. The EPA estimates that there are approximately 23 such locations covered by this rule. The rule will reduce emissions of mercury (Hg), and as a result have positive health and welfare benefits to sustenance fishing communities, many of which are often considered to have environmental justice concerns.

EPA defines "Environmental Justice" to include meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. To promote meaningful involvement, EPA has developed a communication and outreach strategy to ensure that interested communities have access to this rule and are aware of its content. EPA will publicize the rulemaking via EJ newsletters, Tribal newsletters, EJ listservs, and the Internet, including EPA's Office of Policy's Rulemaking Gateway Web site (*http://yosemite.epa.gov/opei/RuleGate.nsf/*). EPA will also conduct targeted outreach to EJ communities as appropriate. Outreach activities may include providing general rulemaking fact sheets (*e.g.*, why is this important for my community) for EJ community groups and conducting conference calls with interested communities. In addition, State and Federal permitting requirements will provide State and local governments and members of affected communities the opportunity to provide comments on the permit conditions associated with permitting the sources affected by this rulemaking.

Overall, this final rule is expected to reduce mercury emissions from gold mine ore processing and production facilities and thus decrease the amount of such emissions to which all affected populations are exposed.

K. 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. EPA will submit a report containing this final 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 this 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 not a "major rule" as defined by 5 U.S.C. 804(2). This final rule will be effective on February 17, 2011.

List of Subjects

40 CFR Part 9

Environmental protection, Reporting and recordkeeping requirements.

40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: December 16, 2010.

Lisa P. Jackson,

Administrator.

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

PART 9—[AMENDED]

■ 1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135, *et seq.*, 136–136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331j, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251, *et seq.*, 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345(d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971–1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–1, 300j–2, 300j–3, 300j–4, 300j–9, 1857, *et seq.*, 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

Subpart A—[Amended]

* * * * *

■ 2. The table in § 9.1 is amended by adding an entry in numerical order for "63.11647–63.11648" under the heading "National Emission Standards for Hazardous Air Pollutants for Source Categories" to read as follows:

§ 9.1 OMB Approvals under the Paperwork Reduction Act.

* * * * *

40 CFR citation	OMB control No.
* * * * *	
National Emission Standards for Hazardous Air Pollutants for Source Categories[3]	
* * * * *	
63.11647–63.11648	2060–NEW
* * * * *	
* * * * *	

[3] The ICRs referenced in this section of the table encompass the applicable general provisions contained in 40 CFR part 63, subpart A, which are not independent information collection requirements.

* * * * *

PART 63—[AMENDED]

■ 3. The authority citation for part 63 continues to read as follows:

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

Subpart A—[Amended]

■ 4. Section 63.14 is amended by adding paragraph (b)(66), revising paragraph (i)(1), and adding paragraph (k)(1)(v) to read as follows:

§ 63.14 Incorporation by reference.

* * * * *

(b) * * *

(66) ASTM D6784–02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method),

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

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

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

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

[9] The results of the demographic analysis are presented in "Review of Environmental Justice Impacts for Gold Mines", December 2010, a copy of which is available in the docket.

approved April 1, 2008, IBR approved for § 63.11646(a)(1)(vi), § 63.11647(a)(1)(ii), § 63.11647(a)(3)(ii), and § 63.11647(d).

* * * * *

(i) * * *

(1) ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], issued August 31, 1981 IBR approved for §§ 63.309(k)(1)(iii), 63.865(b), 63.3166(a)(3), 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), 63.11148(e)(3)(iii), 63.11155(e)(3), 63.11162(f)(3)(iii) and (f)(4), 63.11163(g)(1)(iii) and (g)(2), 63.11410(j)(1)(iii), 63.11551(a)(2)(i)(C), 63.11646(a)(1)(iii), table 5 to subpart DDDDD of this part, and table 1 to subpart ZZZZZ of this part.

* * * * *

(k) * * *

(1) * * *

(v) SW–846 Method 74741B, Revision 2, "Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique)" February 2007, IBR approved for § 63.11647(f)(2).

* * * * *

■ 5. Part 63 is amended by adding subpart EEEEEEE to read as follows:

Subpart EEEEEEE—National Emission Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and Production Area Source Category

Applicability and Compliance Dates

Sec.

63.11640 Am I subject to this subpart?
63.11641 What are my compliance dates?

Standards and Compliance Requirements

63.11645 What are my mercury emission standards?
63.11646 What are my compliance requirements?
63.11647 What are my monitoring requirements?
63.11648 What are my notification, reporting, and recordkeeping requirements?

Other Requirements and Information

63.11650 What General Provisions apply to this subpart?
63.11651 What definitions apply to this subpart?
63.11652 Who implements and enforces this subpart?
63.11653 [Reserved]

Tables to Subpart EEEEEEE of Part 63

Table 1 to Subpart EEEEEEE of Part 63—Applicability of General Provisions to Subpart EEEEEEE

Subpart EEEEEEE—National Emission Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and Production Area Source Category

Applicability and Compliance Dates

§ 63.11640 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a gold mine ore processing and production facility as defined in § 63.11651, that is an area source.

(b) This subpart applies to each new or existing affected source. The affected sources are each collection of "ore pretreatment processes" at a gold mine ore processing and production facility, each collection of "carbon processes with mercury retorts" at a gold mine ore processing and production facility, each collection of "carbon processes without mercury retorts" at a gold mine ore processing and production facility, and each collection of "non-carbon concentrate processes" at a gold mine ore processing and production facility, as defined in § 63.11651.

(1) An affected source is existing if you commenced construction or reconstruction of the affected source on or before April 28, 2010.

(2) An affected source is new if you commenced construction or reconstruction of the affected source after April 28, 2010.

(c) This subpart does not apply to research and development facilities, as defined in section 112(c)(7) of the Clean Air Act (CAA).

(d) If you own or operate a source subject to this subpart, you must have or you must obtain a permit under 40 CFR part 70 or 40 CFR part 71.

§ 63.11641 What are my compliance dates?

(a) If you own or operate an existing affected source, you must comply with the applicable provisions of this subpart no later than February 17, 2014.

(b) If you own or operate a new affected source, and the initial startup of your affected source is on or before February 17, 2011, you must comply with the provisions of this subpart no later than February 17, 2011.

(c) If you own or operate a new affected source, and the initial startup of your affected source is after February 17, 2011, you must comply with the provisions of this subpart upon startup of your affected source.

Standards and Compliance Requirements

§ 63.11645 What are my mercury emission standards?

(a) For existing ore pretreatment processes, you must emit no more than 127 pounds of mercury per million tons of ore processed.

(b) For existing carbon processes with mercury retorts, you must emit no more than 2.2 pounds of mercury per ton of concentrate processed.

(c) For existing carbon processes without mercury retorts, you must emit no more than 0.17 pounds of mercury per ton of concentrate processed.

(d) For existing non-carbon concentrate processes, you must emit no more than 0.2 pounds of mercury per ton of concentrate processed.

(e) For new ore pretreatment processes, you must emit no more than 84 pounds of mercury per million tons of ore processed.

(f) For new carbon processes with mercury retorts, you must emit no more than 0.8 pounds of mercury per ton of concentrate processed.

(g) For new carbon processes without mercury retorts, you must emit no more than 0.14 pounds of mercury per ton of concentrate processed.

(h) For new non-carbon concentrate processes, you must emit no more than 0.1 pounds of mercury per ton of concentrate processed.

(i) The standards set forth in this section apply at all times.

§ 63.11646 What are my compliance requirements?

(a) Except as provided in paragraph (b) of this section, you must conduct a mercury compliance emission test within 180 days of the compliance date for all process units at new and existing affected sources according to the requirements in paragraphs (a)(1) through (a)(13) of this section. This compliance testing must be repeated annually thereafter, with no two consecutive annual compliance tests occurring less than 3 months apart or more than 15 months apart.

(1) You must determine the concentration of mercury and the volumetric flow rate of the stack gas according to the following test methods and procedures:

(i) Method 1 or 1A (40 CFR part 60, appendix A–1) to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) and prior to any releases to the atmosphere.

(ii) Method 2, 2A, 2C, 2D, 2F (40 CFR part 60, appendix A–1), or Method 2G (40 CFR part 60, appendix A–2) to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B (40 CFR part 60, appendix A–2) to determine the dry

molecular weight of the stack gas. You may use ANSI/ASME PTC 19.10, "Flue and Exhaust Gas Analyses" (incorporated by reference-see § 63.14) as an alternative to EPA Method 3B.

(iv) Method 4 (40 CFR part 60, appendix A–3) to determine the moisture content of the stack gas.

(v) Method 29 (40 CFR part 60, appendix A–8) to determine the concentration of mercury, except as provided in paragraphs (a)(1)(vi) and (vii) of this section.

(vi) Upon approval by the permitting authority, ASTM D6784; "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)" (incorporated by reference—see § 63.14) may be used as an alternative to Method 29 to determine the concentration of mercury.

(vii) Upon approval by the permitting authority, Method 30B (40 CFR part 60, appendix A–8) may be used as an alternative to Method 29 to determine the concentration of mercury for those process units with relatively low particulate-bound mercury as specified in Section 1.2 of Method 30B.

(2) A minimum of three test runs must be conducted for each performance test of each process unit. Each test run conducted with Method 29 must collect a minimum sample volume of 0.85 dry standard cubic meters (30 dry standard cubic feet). If conducted with Method 30B or ASTM D6784, determine sample time and volume according to the testing criteria set forth in the relevant method. If the emission testing results for any of the emission points yields a non-detect value, then the minimum detection limit (MDL) must be used to calculate the mass emissions rate (lb/hr) used to calculate the emissions factor (lb/ton) for that emission point and, in turn, for calculating the sum of the emissions (in units of pounds of mercury per ton of concentrate, or pounds of mercury per million tons of ore) for all emission points subject to the emission standard for determining compliance. If the resulting mercury emissions are greater than the MACT emission standard, the owner or operator may use procedures that produce lower MDL results and repeat the mercury emissions testing one additional time for any emission point for which the measured result was below the MDL. If this additional testing is performed, the results from that testing must be used to determine compliance (*i.e.*, there are no additional opportunities allowed to lower the MDL).

(3) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. Performance tests must be conducted under operating conditions (including process or production throughputs) that are based on representative performance. Record and report to the permit authority the process throughput for each test run. For sources with multiple emission units (*e.g.*, two roasters, or a furnace, electrowinning circuit and a mercury retort) ducted to a common control device and stack, compliance testing must be performed either by conducting a single compliance test with all affected emissions units in operation or by conducting a separate compliance test on each emissions unit. Alternatively, the owner or operator may request approval from the permit authority for an alternative testing approach. If the units are tested separately, any emissions unit that is not tested initially must be tested as soon as is practicable. If the performance test is conducted when all affected units are operating, then the number of hours of operation used for calculating emissions pursuant to paragraphs (a)(6) and (7) of this section must be the total number of hours for the unit that has the greatest total operating hours for that period of time, or based on an appropriate alternative method approved by the permit authority to account for the hours of operation for each separate unit in these calculations.

(4) Calculate the mercury emission rate (lb/hr), based on the average of 3 test run values, for each process unit (or combination of units that are ducted to a common stack and are tested when all affected sources are operating pursuant to paragraph (a)(3) of this section) using Equation (1) of this section:

$$E = Cs * Qs * K \qquad \text{(Eq. 1)}$$

Where:

E = mercury emissions in lb/hr;

Cs = concentration of mercury in the stack gas, in grains per dry standard cubic foot (gr/dscf);

Qs = volumetric flow rate of the stack gas, in dry standard cubic feet per hour; and

K = conversion factor for grains (gr) to pounds (lb), 1.43×10^{-4}.

(5) Monitor and record the number of one-hour periods each process unit operates during each month.

(6) For the initial compliance determination for both new and existing sources, determine the total mercury emissions for all the full calendar months between the compliance date and the date of the initial compliance test by multiplying the emission rate in lb/hr for each process unit (or combination of units ducted to a common stack that are tested together) by the number of one-hour periods each process unit (or the unit that had the greatest total operating hours among the combination of multiple units with one stack that are tested together, or an alternative method approved by the permit authority, pursuant to paragraph (a)(3) of this section) operated during those full calendar months prior to the initial compliance test. This initial period must include at least 1 full month of operations. After the initial compliance test, for subsequent compliance tests, determine the mercury mass emissions for the 12 full calendar months prior to the compliance test in accordance with the procedures in paragraph (a)(7) of this section. Existing sources may use a previous emission test for their initial compliance determination in lieu of conducting a new test if the test was conducted within one year of the compliance date using the methods specified in paragraphs (a)(1) through (a)(4) of this section, and the tests were representative of current operating processes and conditions. If a previous test is used for their initial compliance determination, 3 to 12 full months of data on hours of operation and production (*i.e.*, million tons of ore or tons of concentrate), including the month the test was conducted, must be used to calculate the emissions rate (in units of pounds of mercury per million tons of ore for the ore pretreatment affected sources, or in units of pounds of mercury per tons of concentrate for the other affected sources).

(7) For compliance determinations following the initial compliance test for new and existing sources, determine the total mercury mass emissions for each process unit for the 12 full calendar

months preceding the performance test by multiplying the emission rate in lb/hr for each process unit (or combination of units ducted to a common stack that are tested together) by the number of one-hour periods each process unit (or the unit that had the greatest total operating hours among the combination of multiple units with one stack that are tested together, or an alternative method approved by the permit authority, pursuant to paragraph (a)(3) of this section) operated during the 12 full calendar months preceding the completion of the performance tests.

(8) You must install, calibrate, maintain and operate an appropriate weight measurement device, mass flow meter, or densitometer and volumetric flow meter to measure ore throughput for each roasting operation and autoclave and calculate hourly, daily and monthly totals in tons of ore according to paragraphs (a)(8)(i) and (a)(8)(ii) of this section.

(i) Measure the weight or the density and volumetric flow rate of the oxidized ore slurry as it exits the roaster oxidation circuit(s) and before the carbon-in-leach tanks. Alternatively, the weight of the ore can be measured "as fed" if approved by the permit authority as an acceptable equivalent method to measure amount of ore processed.

(ii) Measure the weight or the density and volumetric flow rate of the ore slurry as it is fed to the autoclave(s). Alternatively, the weight or the density and volumetric flow rate of the oxidized ore slurry can be measured as it exits the autoclave and before the carbon-in-leach tanks if approved by the permit authority as an acceptable equivalent method to measure amount of ore processed.

(9) Measure the weight of concentrate (produced by electrowinning, Merrill Crowe process, gravity feed, or other methods) using weigh scales for each batch prior to processing in mercury retorts or melt furnaces. For facilities with mercury retorts, the concentrate must be weighed in the same state and condition as it is when fed to the mercury retort. For facilities without mercury retorts, the concentrate must be weighed prior to being fed to the melt furnace before drying in any ovens. For facilities that ship concentrate offsite, measure the weight of concentrate as shipped offsite. You must keep accurate records of the weights of each batch of concentrate processed and calculate, and record the total weight of concentrate processed each month.

(10) You must maintain the systems for measuring density, volumetric flow rate, and weight within ± 5 percent accuracy. You must describe the specific equipment used to make measurements at your facility and how that equipment is periodically calibrated. You must also explain, document, and maintain written procedures for determining the accuracy of the measurements and make these written procedures available to your permitting authority upon request. You must determine, record, and maintain a record of the accuracy of the measuring systems before the beginning of your initial compliance test and during each subsequent quarter of affected source operation.

(11) Record the weight in tons of ore for ore pretreatment processes and concentrate for carbon processes with mercury retorts, carbon processes without mercury retorts, and for non-carbon concentrate processes on a daily and monthly basis.

(12) Calculate the emissions from each new and existing affected source for the sum of all full months between the compliance date and the date of the initial compliance test in pounds of mercury per ton of process input using the procedures in paragraphs (a)(12)(i) through (a)(12)(iv) of this section to determine initial compliance with the emission standards in § 63.11645. This must include at least 1 full month of data. Or, if a previous test is used pursuant to paragraph (a)(6) of this section for the initial compliance test, use a period of time pursuant to paragraph (a)(6) of this section to calculate the emissions for the affected source. After this initial compliance test period, determine annual compliance using the procedures in paragraph (a)(13) of this section for existing sources.

(i) For ore pretreatment processes, divide the sum of mercury mass emissions (in pounds) from all roasting operations and autoclaves during the number of full months between the compliance date and the initial compliance test by the sum of the total amount of gold mine ore processed (in million tons) in these process units during those same full months following the compliance date. Or, if a previous test is used to determine initial compliance, pursuant to paragraph (a)(6) of this section, then the same 3 to 12 full months of production data (*i.e.*, million tons of ore) and hours of operation referred to in paragraph (a)(6) of this section, must be used to determine the emissions in pounds of mercury per million tons of ore.

(ii) For carbon processes with mercury retorts, divide the sum of mercury mass emissions (in pounds) from all carbon kilns, preg tanks, electrowinning, mercury retorts, and melt furnaces during the initial number of full months between the compliance date and the initial compliance tests by the total amount of concentrate (in tons) processed in these process units during those same full months following the compliance date. If a previous test is used to determine initial compliance, pursuant to paragraph (a)(6) of this section, then the same 3 to 12 full months of production data (*i.e.*, tons of concentrate) and hours of operation referred to in paragraph (a)(6) of this section, must be used to determine the emissions in pounds of mercury per tons of concentrate.

(iii) For carbon processes without mercury retorts, divide the sum of mercury mass emissions (in pounds) from all carbon kilns, preg tanks, electrowinning, and melt furnaces during the initial number of full months between the compliance date and the initial compliance tests by the total amount of concentrate (in tons) processed in these process units during those same full months following the compliance date. If a previous test is used to determine initial compliance, pursuant to paragraph (a)(6) of this section, then the same 3 to 12 full months of production data (*i.e.*, tons of concentrate) and hours of operation referred to in paragraph (a)(6) of this section, must be used to determine the emissions in pounds of mercury per tons of concentrate.

(iv) For non-carbon concentrate processes, divide the sum of mercury mass emissions (in pounds) from mercury retorts and melt furnaces during the initial number of full months between the compliance date and the initial compliance tests by the total amount of concentrate (in tons) processed in these process units during those same full months following the compliance date. If a previous test is used to determine initial compliance, pursuant to paragraph (a)(6) of this section, then the same 3 to 12 full months of production data (*i.e.*, tons of concentrate) and hours of operation referred to in paragraph (a)(6) of this section, must be used to determine the emissions in pounds of mercury per tons of concentrate.

(13) After the initial compliance test, calculate the emissions from each new and existing affected source for each 12-month period preceding each subsequent compliance test in pounds of mercury per ton of process input using the procedures in paragraphs (a)(13)(i) through (iv) of this section to determine compliance with the emission standards in § 63.11645.

(i) For ore pretreatment processes, divide the sum of mercury mass

emissions (in pounds) from all roasting operations and autoclaves in the 12-month period preceding a compliance test by the sum of the total amount of gold mine ore processed (in million tons) in that 12-month period.

(ii) For carbon processes with mercury retorts, divide the sum of mercury mass emissions (in pounds) from all carbon kilns, preg tanks, electrowinning, mercury retorts, and melt furnaces in the 12-month period preceding a compliance test by the total amount of concentrate (in tons) processed in these process units in that 12-month period.

(iii) For carbon processes without mercury retorts, divide the sum of mercury mass emissions (in pounds) from all carbon kilns, preg tanks, electrowinning, and melt furnaces in the 12-month period preceding a compliance test by the total amount of concentrate (in tons) processed in these process units in that 12-month period.

(iv) For non-carbon concentrate processes, divide the sum of mercury mass emissions (in pounds) from mercury retorts and melt furnaces in the 12-month period preceding a compliance test by the total amount of concentrate (in tons) processed in these process units in that 12-month period.

(b) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

§ 63.11647 What are my monitoring requirements?

(a) Except as provided in paragraph (a)(5) of this section, you must monitor each roaster for mercury emissions using one of the procedures in paragraphs (a)(1), (a)(2), or (a)(3) of this section and establish operating limits for mercury concentration as described in paragraph (a)(4) of this section.

(1) Perform sampling and analysis of the roaster's exhaust for mercury concentration using EPA Performance Specification 12B (40 CFR part 60, appendix B and Procedure 5 of appendix F) or EPA Method 30B (40 CFR part 60, appendix A–8) at least twice per month. A minimum of two measurements must be taken per month that are at least 11 days apart from other consecutive tests. The mercury concentration must be maintained below the operating limit established in paragraph (a)(4) of this section. The results of the sampling must be obtained within 72 hours of the time the sample is taken.

(i) To determine the appropriate sampling duration, you must review the available data from previous stack tests to determine the upper 99th percentile of the range of mercury concentrations in the exit stack gas. Based on this upper end of expected concentrations, select an appropriate sampling duration that is likely to provide a valid sample and not result in breakthrough of the sampling tubes. If breakthrough of the sampling tubes occurs, you must re-sample within 7 days using a shorter sampling duration.

(ii) If any mercury concentration measurement from the twice per month sampling with PS 12B or Method 30B is higher than the operating limit, the exceedance must be reported to the permit authority as a deviation and corrective actions must be implemented within 48 hours upon receipt of the sampling results. Moreover, within 96 hours of the exceedance, the owner or operator must measure the concentration again (with PS 12B (40 CFR part 60, appendix B and Procedure 5 of appendix F), Method 30B or Method 29 (40 CFR part 60, appendix A–8), or ASTM D6784(incorporated by reference—see § 63.14)) and demonstrate to the permit authority that the mercury concentration is no higher than the operating limit, or inform the permit authority that the limit continues to be exceeded. If the measured mercury concentration exceeds the operating limit for mercury concentration after these 96 hours, the exceedance must be reported as a deviation within 24 hours to the permitting authority. The owner or operator must conduct a full compliance test pursuant to § 63.11646(a) for the roaster operations within 40 days to determine if the affected source is in compliance with the MACT emission standard. For facilities that have roasters and autoclaves, the owner or operator can use the results of the previous compliance test for the autoclaves to determine the emissions for those process units to be used in the calculations of the emissions for the affected source. If the source is determined to be in compliance, the compliance test may also be used to establish a new operating limit for mercury concentration (in accordance with paragraph (e) of this section).

(2) Install, operate, calibrate, and maintain a continuous emissions monitoring system (CEMS) to continuously measure the mercury concentration in the final exhaust stream from each roaster according to the requirements of Performance Specification 12A (40 CFR part 60, appendix B) except that calibration standards traceable to the National Institute of Standards and Technology are not required. You must perform a data accuracy assessment of the CEMS according to section 5 of Appendix F in part 60 and follow the applicable monitoring requirements in § 63.8 as provided in Table 1 to subpart EEEEEEE.

(i) You must continuously monitor the daily average mercury concentration from the roaster and maintain the daily average concentration below the operating limit established in paragraph (a)(4) of this section.

(ii) If the daily average mercury concentration from the CEMs is higher than the operating limit, the exceedance must be reported to the permit authority as a deviation and corrective actions must be implemented within 48 hours upon receipt of the sampling results. Moreover, within 96 hours of the exceedance, the owner or operator must measure the concentration again (with the CEMs (40 CFR part 60, appendix B and Procedure 5 of appendix F) and demonstrate to the permit authority that the mercury concentration is no higher than the operating limit, or inform the permit authority that the limit continues to be exceeded. If the measured mercury concentration exceeds the operating limit for mercury concentration after these 96 hours, the exceedance must be reported as a deviation within 24 hours to the permitting authority, and the owner or operator must conduct a full compliance test pursuant to § 63.11646(a) for the roaster operations within 40 days to determine if the affected source is in compliance with the MACT emission standard. For facilities that have roasters and autoclaves, the owner or operator can use the results of the previous compliance test for the autoclaves to determine the emissions for those process units to be used in the calculations of the emissions for the affected source. If the source is determined to be in compliance, the compliance test results may also be used to establish a new operating limit for mercury concentration (in accordance with paragraph (e) of this section).

(iii) You must submit a monitoring plan that includes quality assurance and quality control (QA/QC) procedures sufficient to demonstrate the accuracy of

the CEMS to your permitting authority for approval 180 days prior to your initial compliance test. At a minimum, the QA/QC procedures must include daily calibrations and an annual accuracy test for the CEMS.

(3) Continuously measure the mercury concentration in the final exhaust stream from each roaster using EPA Performance Specification 12B (40 CFR part 60 appendix B and Procedure 5 of appendix F).

(i) You must continuously measure the mercury concentration in the roaster exhaust and maintain the average daily mercury concentration below the operating limit established in paragraph (a)(4) of this section. To determine the appropriate sampling duration, you must review the available data from previous stack tests to determine the upper 99th percentile of the range of mercury concentrations in the exit stack gas. Based on this upper end of expected concentrations, select an appropriate sampling duration that is likely to provide a valid sample and not result in breakthrough of the sampling tubes. If breakthrough of the sampling tubes occurs, you must re-sample within 7 days using a shorter sampling duration.

(ii) If the daily average mercury concentration is higher than the operating limit, the exceedance must be reported to the permit authority as a deviation and corrective actions must be implemented within 48 hours upon receipt of the sampling results. Moreover, within 96 hours of the exceedance, the owner or operator must measure the concentration again with PS 12B (40 CFR part 60, appendix B and Procedure 5 of appendix F), Method 30B or Method 29 (40 CFR part 60, appendix A–8), or ASTM D6784(incorporated by reference—see § 63.14) and demonstrate to the permit authority that the mercury concentration is no higher than the operating limit, or inform the permit authority that the limit continues to be exceeded. If the measured mercury concentration exceeds the operating limit for mercury concentration after these 96 hours, the exceedance must be reported as a deviation within 24 hours to the permitting authority and the owner or operator must conduct a full compliance test pursuant to § 63.11646(a) for the roaster operations within 40 days to determine if the affected source is in compliance with the MACT emission standard. For facilities that have roasters and autoclaves, the owner or operator can use the results of the previous compliance test for the autoclaves to determine the emissions for those process units to be used in the calculations of the emissions for the affected source. If the source is determined to be in compliance, the compliance test results may also be used to establish a new operating limit for mercury concentration (in accordance with paragraph (e) of this section).

(4) Use Equation (2) of this section to establish an upper operating limit for mercury concentration as determined by using the procedures in paragraphs (a)(1), (a)(2), or (a)(3) of this section concurrently while you are conducting your annual compliance performance stack tests according to the procedures in § 63.11646(a).

$$OLR = C_{test} * (EL/CT) \qquad \text{(Eq 2)}$$

Where:

OLR = mercury concentration operating limit for the roaster (or roasters that share a common stack) (in micrograms per cubic meter);

C_{test} = average mercury concentration measured by the monitoring procedures (PS 12A or PS 12B or 30B) during the compliance performance stack test (in micrograms per cubic meter);

EL = emission standard for ore pretreatment processes (in lb/million tons of ore);

CT = compliance test results for ore pretreatment processes (in lb/million tons of ore).

(5) For roasters that utilize calomel-based mercury control systems for emissions controls, you are not required to perform the monitoring for mercury emissions in paragraphs (a)(1), (a)(2), or (a)(3) of this section if you demonstrate to the satisfaction of your permitting authority that mercury emissions from the roaster are less than 10 pounds of mercury per million tons of ore throughput. If you make this demonstration, you must conduct the parametric monitoring as described below in paragraphs (b) and (c) of this section.

(i) The initial demonstration must include three or more consecutive independent stack tests for mercury at least one month apart on the roaster exhaust stacks. Subsequent demonstrations may be based upon the single stack test required in paragraph (a) of section § 63.11646. The results of each of the tests must be less than 10 pounds of mercury per million tons of ore. The testing must be performed according to the procedures in § 63.11646(a)(1) through (a)(4) to determine mercury emissions in pounds per hour.

(ii) Divide the mercury emission rate in pounds per hour by the ore throughput rate during the test expressed in millions of tons per hour to determine the emissions in pounds per million tons of ore.

(b) For facilities with roasters and a calomel-based mercury control system that choose to monitor for mercury emissions using the procedures in paragraph (a)(1) of this section or that qualify for and choose to follow the requirements in paragraph (a)(5) of this section, you must establish operating parameter limits for scrubber liquor flow (or line pressure) and scrubber inlet gas temperature and monitor these parameters. You may establish your operating parameter limits from the initial compliance test, according to the manufacturer's specifications, or based on limits established by the permitting authority. If you choose to establish your operating parameter limits from the initial compliance test, monitor the scrubber liquor flow (or line pressure) and scrubber inlet gas temperature during each run of your initial compliance test. The minimum operating limit for scrubber liquor flow rate (or line pressure) is either the lowest value during any run of the initial compliance test or 10 percent less than the average value measured during the compliance test, and your maximum scrubber inlet temperature limit is the highest temperature measured during any run of the initial compliance test or 10 percent higher than the average value measured during the compliance test. You must monitor the scrubber liquor flow rate (or line pressure) and scrubber inlet gas temperature hourly and maintain the scrubber liquor flow (or line pressure) at or above the established operating parameter and maintain the inlet gas temperature below the established operating parameter limit.

(c) For facilities with roasters and a calomel-based mercury control system that choose to monitor for mercury emissions using the procedures in paragraph (a)(1) of this section or that qualify for and follow the requirements in paragraph (a)(5) of this section, you must establish operating parameter ranges for mercuric ion and chloride ion concentrations or for oxidation reduction potential and pH using the

procedures in paragraph (c)(1) or (c)(2) of this section respectively.

(1) Establish the mercuric ion concentration and chloride ion concentration ranges for each calomel-based mercury control system. The mercuric ion concentration and chloride ion concentration ranges for each calomel-based mercury control system must be based on the manufacturer's specifications, or based on approval by your permitting authority. Measure the mercuric ion concentration and chloride ion concentrations at least once during each run of your initial compliance test. The measurements must be within the established concentration range for mercuric ion concentration and chloride ion concentration. Subsequently, you must sample at least once daily and maintain the mercuric ion concentration and chloride ion concentrations within their established range.

(2) Establish the oxidation reduction potential and pH range for each calomel-based mercury control system. The oxidation reduction potential and pH range for each calomel-based mercury control system must be based on the manufacturer's specifications, or based on approval by your permitting authority. Install monitoring equipment to continuously monitor the oxidation reduction potential and pH of the calomel-based mercury control system scrubber liquor. Measure the oxidation reduction potential and pH of the scrubber liquor during each run of your initial compliance test. The measurements must be within the established range for oxidation reduction potential and pH. Subsequently, you must monitor the oxidation reduction potential and pH of the scrubber liquor continuously and maintain it within the established operating range.

(d) If you have an exceedance of a control device operating parameter range provided in paragraphs (b) or (c) of this section, you must take corrective action and bring the parameters back into the established parametric ranges. If the corrective actions taken following an exceedance do not result in the operating parameter value being returned within the established range within 48 hours, a mercury concentration measurement (with PS 12B or PS 12A CEMS (40 CFR part 60, appendix B and Procedure 5 of appendix F), Method 30B or Method 29 (40 CFR part 60, appendix A–8), or ASTM D6784 (incorporated by reference—see § 63.14)) must be made to determine if the operating limit for mercury concentration is being exceeded. The measurement must be performed and the mercury concentration determined within 48 hours (after the initial 48 hours, or a total of 96 hours from the time the parameter range was exceeded). If the measured mercury concentration meets the operating limit for mercury concentration established under § 63.11647(a)(4), the corrective actions are deemed successful, and the owner or operator can request the permit authority to establish a new limit or range for the parameter. If the measured mercury concentration exceeds the operating limit for mercury concentration after these 96 hours, the exceedance must be reported as a deviation within 24 hours to the permitting authority and the owner or operator must conduct a full compliance test pursuant to § 63.11646(a) for the roaster operations within 40 days to determine if the affected source is in compliance with the MACT emission standard. For facilities that have roasters and autoclaves, the owner or operator can use the results of the previous compliance test for the autoclaves to determine the emissions for those process units to be used in the calculations of the emissions for the affected source. If the source is determined to be in compliance with the MACT emission standard, the compliance test may also be used to establish a new operating limit for mercury concentration (see paragraph (e) of this section).

(e) You may submit a request to your permitting authority for approval to change the operating limits established under paragraph (a)(4) of this section for the monitoring required in paragraph (a)(1),(a)(2), or (a)(3) of this section. In the request, you must demonstrate that the proposed change to the operating limit detects changes in levels of mercury emission control. An approved change to the operating limit under this paragraph only applies until a new operating limit is established during the next annual compliance test.

(f) You must monitor each process unit at each new and existing affected source that uses a carbon adsorber to control mercury emissions using the procedures in paragraphs (f)(1) or (f)(2) of this section. A carbon adsorber may include a fixed carbon bed, carbon filter packs or modules, carbon columns, and other variations.

(1) Continuously sample and analyze the exhaust stream from the carbon adsorber for mercury using Method 30B (40 CFR part 60, appendix A–8) for a duration of at least the minimum sampling time specified in Method 30B and up to one week that includes the period of the annual performance test.

(i) Establish an upper operating limit for the process as determined using the mercury concentration measurements from the sorbent trap (Method 30B) as calculated from Equation (3) of this section.

$$OLC = C_{trap} * (EL/CT) \qquad \text{(Eq 3)}$$

Where:

OLC = mercury concentration operating limit for the carbon adsorber control device on the process as measured using the sorbent trap, (micrograms per cubic meter);

C_{trap} = average mercury concentration measured using the sorbent trap during the week that includes the compliance performance test, (micrograms per cubic meter);

EL = emission standard for the affected sources (lb/ton of concentrate);

CT = compliance test results for the affected sources (lb/ton of concentrate).

(ii) Sample and analyze the exhaust stream from the carbon adsorber for mercury at least monthly using Method 30B (40 CFR part 60, appendix A–8). When the mercury concentration reaches 75 percent of the operating limit, begin weekly sampling and analysis. When the mercury concentration reaches 90 percent of the operating limit, replace the carbon in the carbon adsorber within 30 days. If mercury concentration exceeds the operating limit, change the carbon in the carbon adsorber within 30 days and report the deviation to your permitting authority.

(2) Conduct an initial sampling of the carbon in the carbon bed for mercury 90 days after the replacement of the carbon. A representative sample must be collected from the inlet of the bed and the exit of the bed and analyzed using SW–846 Method 7471B (incorporated by reference—see § 63.14). The depth to which the sampler is inserted must be recorded. The design capacity is established by calculating the average carbon loading from the inlet and outlet measurements. Sampling and analysis

of the carbon bed for mercury must be performed quarterly thereafter. When the carbon loading reaches 50 percent of the design capacity of the carbon, monthly sampling must be performed until 90 percent of the carbon loading capacity is reached. The carbon must be removed and replaced with fresh carbon no later than 30 days after reaching 90 percent of capacity. For carbon designs where there may be multiple carbon columns or beds, a representative sample may be collected from the first and last column or bed instead of the inlet or outlet. If the carbon loading exceeds the design capacity of the carbon, change the carbon within 30 days and report the deviation to your permitting authority.

(g) You must monitor gas stream temperature at the inlet to the carbon adsorber for each process unit (*i.e.*, carbon kiln, melt furnace, *etc.*) equipped with a carbon adsorber. Establish a maximum value for the inlet temperature either during the annual performance test (required in § 63.11646(a)), according to the manufacturer's specifications, or as approved by your permitting authority. If you choose to establish the temperature operating limit during the performance test, establish the temperature operating limit based on either the highest reading during the test or at 10°F higher than the average temperature measured during the performance test. Monitor the inlet temperature once per shift. If an inlet temperature exceeds the temperature operating limit, you must take corrective actions to get the temperature back within the parameter operating limit within 48 hours. If the exceedance persists, within 144 hours of the exceedance, you must sample and analyze the exhaust stream from the carbon adsorber using Method 30B (40 CFR part 60, appendix A–8) and compare to an operating limit (calculated pursuant to (f)(1)(i)) or you must conduct carbon sampling pursuant to (f)(2) of this section. If the concentration measured with Method 30B is below 90 percent of the operating limit or the carbon sampling results are below 90 percent of the carbon loading capacity, you may set a new temperature operating limit 10°F above the previous operating limit or at an alternative level approved by your permit authority. If the concentration is above 90 percent of the operating limit or above 90 percent of the carbon loading capacity you must change the carbon in the bed within 30 days and report the event to your permitting authority, and reestablish an appropriate maximum temperature limit based on approval of your permit authority.

(h) For each wet scrubber at each new and existing affected source not followed by a mercury control system, you must monitor the water flow rate (or line pressure) and pressure drop. Establish a minimum value as the operating limit for water flow rate (or line pressure) and pressure drop either during the performance test required in § 63.11646(a), according to the manufacturer's specifications, or as approved by your permitting authority. If you choose to establish the operating limit based on the results of the performance test, the new operating limit must be established based on either the lowest value during any test run or 10 percent less than the average value measured during the test. For wet scrubbers on an autoclave, establish the pressure drop range according to manufacturer's specifications. You must monitor the water flow rate and pressure drop once per shift and take corrective action within 24 hours if any daily average is less than the operating limit. If the parameters are not in range within 72 hours, the owner or operator must report the deviation to the permitting authority and perform a compliance test for the process unit(s) controlled with the wet scrubber that has the parameter exceedance within 40 days to determine if the affected source is in compliance with the MACT limit. For the other process units included in the affected source, the owner or operator can use the results of the previous compliance test to determine the emissions for those process units to be used in the calculations of the emissions for the affected source.

(i) You may conduct additional compliance tests according to the procedures in § 63.11646 and re-establish the operating limits required in paragraphs (a) through (c) and (f) through (h) of this section at any time. You must submit a request to your permitting authority for approval to re-establish the operating limits. In the request, you must demonstrate that the proposed change to the operating limit detects changes in levels of mercury emission control. An approved change to the operating limit under this paragraph only applies until a new operating limit is established during the next annual compliance test.

§ 63.11648 What are my notification, reporting, and recordkeeping requirements?

(a) You must submit the Initial Notification required by § 63.9(b)(2) no later than 120 calendar days after the date of publication of the final rule in the **Federal Register** or within 120 days after the source becomes subject to the standard. The Initial Notification must include the information specified in § 63.9(b)(2)(i) through (b)(2)(iv).

(b) You must submit an initial Notification of Compliance Status as required by § 63.9(h).

(c) If a deviation occurs during a semiannual reporting period, you must submit a deviation report to your permitting authority according to the requirements in paragraphs (c)(1) and (2) of this section.

(1) The first reporting period covers the period beginning on the compliance date specified in § 63.11641 and ending on June 30 or December 31, whichever date comes first after your compliance date. Each subsequent reporting period covers the semiannual period from January 1 through June 30 or from July 1 through December 31. Your deviation report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

(2) A deviation report must include the information in paragraphs (c)(2)(i) through (c)(2)(iv) of this section.

(i) Company name and address.

(ii) Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy and completeness of the content of the report.

(iii) Date of the report and beginning and ending dates of the reporting period.

(iv) Identification of the affected source, the pollutant being monitored, applicable requirement, description of deviation, and corrective action taken.

(d) If you had a malfunction during the reporting period, the compliance report required in § 63.11648(b) must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.11646(b), including actions taken to correct a malfunction.

(e) You must keep the records specified in paragraphs (e)(1) through (e)(3) of this section. The form and maintenance of records must be consistent with the requirements in section 63.10(b)(1) of the General Provisions.

(1) As required in § 63.10(b)(2)(xiv), you must keep a copy of each

notification that you submitted to comply with this subpart and all documentation supporting any Initial Notification, Notification of Compliance Status, and semiannual compliance certifications that you submitted.

(2) You must keep the records of all performance tests, measurements, monitoring data, and corrective actions required by §§ 63.11646 and 63.11647, and the information identified in paragraphs (c)(2)(i) through (c)(2)(vi) of this section for each corrective action required by § 63.11647.

(i) The date, place, and time of the monitoring event requiring corrective action;

(ii) Technique or method used for monitoring;

(iv) Operating conditions during the activity;

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation; and

(vi) Maintenance or corrective action taken (if applicable).

(3) You must keep records of operating hours for each process as required by § 63.11646(a)(5) and records of the monthly quantity of ore and concentrate processed or produced as required by § 63.11646(a)(10).

(f) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1). As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each recorded action. You must keep each record onsite for at least 2 years after the date of each recorded action according to § 63.10(b)(1). You may keep the records offsite for the remaining 3 years.

(g) After December 31, 2011, within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with this subpart, the owner or operator of the affected facility must submit the test data to EPA by entering the data electronically into EPA's WebFIRE data base through EPA's Central Data Exchange. The owner or operator of an affected facility shall enter the test data into EPA's data base using the Electronic Reporting Tool or other compatible electronic spreadsheet. Only performance evaluation data collected using methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

Other Requirements and Information

§ 63.11650 What General Provisions apply to this subpart?

Table 1 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.16 apply to you.

§ 63.11651 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, and in this section as follows:

Autoclave means a pressure oxidation vessel that is used to treat gold ores (primarily sulfide refractory ore) and involves pumping a slurry of milled ore into the vessel which is highly pressurized with oxygen and heated to temperatures of approximately 350° to 430° F.

Calomel-based mercury control system means a mercury emissions control system that uses scrubbers to remove mercury from the gas stream of a roaster or combination of roasters by complexing the mercury from the gas stream with mercuric chloride to form mercurous chloride (calomel). These scrubbers are also referred to as "mercury scrubbers."

Carbon adsorber means a control device consisting of a single fixed carbon bed, multiple carbon beds or columns, carbon filter packs or modules, and other variations that uses activated carbon to remove pollutants from a gas stream.

Carbon kiln means a kiln or furnace where carbon is regenerated by heating, usually in the presence of steam, after the gold has been stripped from the carbon.

Carbon processes with mercury retorts means the affected source that includes carbon kilns, preg tanks, electrowinning cells, mercury retorts, and melt furnaces at gold mine ore processing and production facilities that use activated carbon, or resins that can be used as a substitute for activated carbon, to recover (adsorb) gold from the pregnant cyanide solution.

Carbon processes without mercury retorts means the affected source that includes carbon kilns, preg tanks, electrowinning cells, and melt furnaces, but has no retorts, at gold mine ore processing and production facilities that use activated carbon, or resins that can be used as a substitute for activated carbon, to recover (adsorb) gold from the pregnant cyanide solution.

Concentrate means the sludge-like material that is loaded with gold along with various other metals (such as silver, copper, and mercury) and various other substances, that is produced by electrowinning, the Merrill-Crowe process, flotation and gravity separation processes. *Concentrate* is measured as the input to mercury retorts, or for facilities without mercury retorts, as the input to melt furnaces before any drying takes place. For facilities without mercury retorts or melt furnaces, *concentrate* is measured as the quantity shipped.

Deviation means any instance where 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 emissions limitation 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) Exceeds any operating limit established under this subpart.

Electrowinning means a process that uses induced voltage on anode and cathode plates to remove metals from the continuous flow of solution, where the gold in solution is plated onto the cathode. Steel wool is typically used as the plating surface.

Electrowinning Cells means a tank in which the electrowinning takes place.

Gold mine ore processing and production facility means any industrial facility engaged in the processing of gold mine ore that uses any of the following processes: Roasting operations, autoclaves, carbon kilns, preg tanks, electrowinning, mercury retorts, or melt furnaces. Laboratories (see CAA section 112(c)(7)), individual prospectors, and very small pilot scale mining operations that processes or produces less than 100 pounds of concentrate per year are not a gold mine ore processing and production facility. A facility that produces primarily metals other than gold, such as copper, lead, zinc, or nickel (where these metals other than gold comprise 95 percent or more of the total metal production) that may also recover some gold as a byproduct is not a gold mine ore processing and production facility. Those facilities whereby 95 percent or more of total mass of metals produced are metals other than gold, whether final metal production is onsite or offsite, are not part of the gold mine ore processing and production source category.

Melt furnace means a furnace (typically a crucible furnace) that is used for smelting the gold-bearing material recovered from mercury retorting, or the gold-bearing material from electrowinning, the Merrill-Crowe

process, or other processes for facilities without mercury retorts.

Mercury retort means a vessel that is operated under a partial vacuum at approximately 1,100 ° to 1,300 °F to remove mercury and moisture from the gold bearing sludge material that is recovered from electrowinning, the Merrill-Crowe process, or other processes. Mercury retorts are usually equipped with condensers that recover liquid mercury during the processing.

Merrill-Crowe process means a precipitation technique using zinc oxide for removing gold from a cyanide solution. Zinc dust is added to the solution, and gold is precipitated to produce a concentrate.

Non-carbon concentrate processes means the affected source that includes mercury retorts and melt furnaces at gold mine ore processing and production facilities that use the Merrill-Crowe process or other processes and do not use carbon (or resins that substitute for carbon) to recover (adsorb) gold from the pregnant cyanide solution.

Ore dry grinding means a process in which the gold ore is ground and heated (dried) prior to additional preheating or prior to entering the roaster.

Ore preheating means a process in which ground gold ore is preheated prior to entering the roaster.

Ore pretreatment processes means the affected source that includes roasting operations and autoclaves that are used to pre-treat gold mine ore at gold mine ore processing and production facilities prior to the cyanide leaching process.

Pregnant solution tank (or preg tank) means a storage tank for pregnant solution, which is the cyanide solution that contains gold-cyanide complexes that is generated from leaching gold ore with cyanide solution.

Pregnant cyanide solution means the cyanide solution that contains gold-cyanide complexes that are generated from leaching gold ore with a dilute cyanide solution.

Quenching means a process in which the hot calcined ore is cooled and quenched with water after it leaves the roaster.

Roasting operation means a process that uses an industrial furnace in which milled ore is combusted across a fluidized bed to oxidize and remove organic carbon and sulfide mineral grains in refractory gold ore. The emissions points of the roasting operation subject to this subpart include ore dry grinding, ore preheating, the roaster stack, and quenching.

§ 63.11652 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority, such as your state, local, or tribal agency. If the U.S. 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 U.S. 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 contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the state, local, or tribal agency.

(c) The authorities that will not be delegated to state, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the applicability requirements in § 63.11640, the compliance date requirements in § 63.11641, and the applicable standards in § 63.11645.

(2) Approval of an alternative nonopacity emissions standard under § 63.6(g).

(3) Approval of a major change to a test method under § 63.7(e)(2)(ii) and (f). A "major change to test method" is defined in § 63.90(a).

(4) Approval of a major change to monitoring under § 63.8(f). A "major change to monitoring" is defined in § 63.90(a).

(5) Approval of a waiver of recordkeeping or reporting requirements under § 63.10(f), or another major change to recordkeeping/reporting. A "major change to recordkeeping/reporting" is defined in § 63.90(a).

§ 63.11653 [Reserved]

Tables to Subpart EEEEEEE of Part 63

TABLE 1 TO SUBPART EEEEEEE OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART EEEEEE

[As stated in § 63.11650, you must comply with the applicable General Provisions requirements according to the following table]

Citation	Subject	Applies to subpart EEEEEEE	Explanation
§ 63.1(a)(1), (a)(2), (a)(3), (a)(4), (a)(6), (a)(10)–(a)(12), (b)(1), (b)(3), (c)(1), (c)(2), (c)(5), (e).	Applicability	Yes.	
§ 63.1(a)(5), (a)(7)–(a)(9), (b)(2), (c)(3), (c)(4), (d).	Reserved	No.	
§ 63.2	Definitions	Yes.	
§ 63.3	Units and Abbreviations	Yes.	
§ 63.4	Prohibited Activities and Circumvention.	Yes.	
§ 63.5	Preconstruction Review and Notification Requirements.	Yes.	
§ 63.6(a), (b)(1)–(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1)(iii), (f)(2), (f)(3), (g), (i), (j).	Compliance with Standards and Maintenance Requirements.	Yes.	
§ 63.6(e)(1)(i) and (ii), (e)(3), and (f)(1)	Startup, Shutdown and Malfunction Requirements (SSM).	No	Subpart EEEEEEE standards apply at all times.
§ 63.6(h)(1), (h)(2), (h)(4),(h)(5)(i), (ii), (iii) and (v), (h)(6)–(h)(9).	Compliance with Opacity and Visible Emission Limits.	No	Subpart EEEEEEE does not contain opacity or visible emission limits.
§ 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv).	Reserved	No.	
§ 63.7, except (e)(1)	Applicability and Performance Test Dates.	Yes.	
§ 63.7(e)(1)	Performance Testing Requirements Related to SSM.	No.	

TABLE 1 TO SUBPART EEEEEEE OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART EEEEEE—Continued

[As stated in § 63.11650, you must comply with the applicable General Provisions requirements according to the following table]

Citation	Subject	Applies to subpart EEEEEEE	Explanation
§ 63.8(a)(1), (b)(1), (f)(1)–(5), (g)	Monitoring Requirements	Yes.	
§ 63.8(a)(2), (a)(4), (b)(2)–(3), (c), (d), (e), (f)(6), (g).	Continuous Monitoring Systems	Yes	Except cross references to SSM requirements in § 63.6(e)(1) and (3) do not apply.
§ 63.8(a)(3)	[Reserved]	No.	
§ 63.9(a), (b)(1), (b)(2)(i)–(v), (b)(4), (b)(5), (c), (d), (e), (g), (h)(1)–(h)(3), (h)(5), (h)(6), (i), (j).	Notification Requirements	Yes.	
§ 63.9(f)		No.	
§ 63.9(b)(3), (h)(4)	Reserved	No.	
§ 63.10(a), (b)(1), (b)(2)(vi)–(xiv), (b)(3), (c), (d)(1)–(4), (e), (f).	Recordkeeping and Reporting Requirements.	Yes.	
§ 63.10(b)(2)(i)–(v), (d)(5)	Recordkeeping/Reporting Associated with SSM.	No.	
§ 63.10(c)(2)–(c)(4), (c)(9)	Reserved	No.	
§ 63.11	Control Device Requirements	No.	
§ 63.12	State Authority and Delegations	Yes.	
§§ 63.13–63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions.	Yes.	

[FR Doc. 2011–2608 Filed 2–16–11; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2008–0708, FRL–9277–3]

RIN 2060–AQ78

National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule; amendments.

SUMMARY: EPA is taking direct final action to promulgate amendments to a final rule that provided national emission standards for hazardous air pollutants for existing stationary spark ignition reciprocating internal combustion engines. The final rule was published on August 20, 2010. This direct final action amends certain regulatory text to clarify compliance requirements related to continuous parameter monitoring systems. EPA is also correcting minor typographical errors in the regulatory text to the August 20, 2010, action.

DATES: The direct final rule is effective on May 9, 2011, without further notice, unless EPA receives significant adverse written comment by April 8, 2011 on any portion of this rule, or if a public hearing is requested by March 16, 2011. If significant adverse comments are received on any or all of the amendments, EPA will publish a timely withdrawal in the **Federal Register** clarifying which provisions will become effective and which provisions are being withdrawn due to adverse comment.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2008–0708, by one of the following methods:

- *http://www.regulations.gov:* Follow the on-line instructions for submitting comments.
- *E-mail: a-and-r-docket@epa.gov.*
- *Fax:* (202) 566–9744.
- *Mail:* U.S. Postal Service, send comments to: EPA Docket Center (6102T), National Emission Standards for Hazardous Air Pollutant for Stationary Reciprocating Internal Combustion Engines Docket, Docket ID No. EPA–HQ–OAR–2008–0708, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Please include a total of two copies. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget, *Attn:* Desk Officer for EPA, 725 17th St., NW., Washington, DC 20503.
- *Hand Delivery:* In person or by courier, deliver comments to: EPA Docket Center (6102T), National Emission Standards for Hazardous Air Pollutant for Stationary Reciprocating Internal Combustion Engines Docket, Docket ID No. EPA–HQ–OAR–2008–0708, EPA West, Room 3334, 1301 Constitution Avenue, NW., Washington, DC 20004. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information. Please include a total of two copies.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2008–0708. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov,* your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the *http://www.regulations.gov* index. EPA also relies on documents in Docket ID Nos. EPA–HQ–OAR–2002–0059, EPA–HQ–OAR–2005–0029, and EPA–HQ–OAR–2005–0030, and incorporated those dockets into the record for this action. Although listed in the index, some information is not publicly available, *e.g.,* CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the EPA Docket Center, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Ms. Melanie King, Energy Strategies Group, Sector Policies and Programs Division (D243–01), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number (919) 541–2469; facsimile number (919) 541–5450; e-mail address *king.melanie@epa.gov.*

SUPPLEMENTARY INFORMATION:

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

I. What is the background for the amendments?
II. What are the changes to the final rule?
III. 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 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. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act

I. What is the background for the amendments?

On August 20, 2010 (75 FR 51570), EPA issued final amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE). EPA has subsequently determined, following discussions with affected parties, that the final rule warrants clarification in certain areas. First, certain portions of

the operation and maintenance requirements for continuous parameter monitoring systems (CPMS) are unclear. Second, sources asked for guidance regarding the requirement to conduct a temperature measurement calibration check. Finally, EPA is correcting an inadvertent error in the definition for "spark ignition." This action makes these clarifications and corrects these errors.

EPA is issuing the amendments as a direct final rule, without a prior proposal, because we view the revisions as noncontroversial and anticipate no adverse comment. However, in the Proposed Rules section of this **Federal Register** notice, EPA is publishing a separate document that will serve as the proposal to amend the RICE NESHAP if significant adverse comments are filed. EPA will not institute a second comment period on this action. Any parties interested in commenting must do so at this time. EPA would address all public comments in any subsequent final rule based on the proposed rule.

II. What are the changes to the final rule?

This direct final rule clarifies the provisions related to the data collection requirements for CPMS. After promulgation of the August 20, 2010, final rule, affected sources indicated that the CPMS operation, maintenance, and data collection requirements in 40 CFR 63.6625(b) were unclear. In particular, sources were not clear about the intent of the requirements for minimum availability of data. This action clarifies those requirements. It specifies that the requirement to monitor operating parameters on a continuous basis applies at all times the process is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. This direct final rule also corrects an inadvertent error in the averaging time for the operating parameter data. Paragraph 40 CFR 63.6625(b)(4) required sources to determine a 3-hour block average of the parameter, which was not consistent with the requirements in Table 6 of 40 CFR part 63, subpart ZZZZ to determine a 4-hour rolling average. This action clarifies that sources should determine the 4-hour rolling average as specified in Table 6 to 40 CFR part 63, subpart ZZZZ and removes the reference to a 3-hour block average in 40 CFR 63.6625(b). The operating parameter data should be reduced to 1-hour averages, and the 4-hour rolling average should be determined using the rolling average of the four hourly averages.

Affected sources were also unclear regarding the requirement in 40 CFR 63.6625(k)(4) to conduct a temperature measurement calibration check at least every 3 months, and asked EPA for guidance on appropriate methods for conducting the calibration check. More specifically, sources struggled with the intention of the term "calibration check," wondering whether classical techniques such as the use of ice and boiling water baths would be the sole acceptable means of demonstrating a "calibration check." In addition, sources wondered whether just the sensor or the entire system should be subject to a "calibration check." This action replaces the term "calibration check" with "system accuracy audit" to better reflect EPA's intent. EPA recognizes that there are many ways for a source to demonstrate that its measurement system—as opposed to individual sensors—are producing and should be expected to continue producing valid data, and EPA affords sources the ability to tailor their monitoring plans to accommodate their system accuracy audit preferences. System accuracy audit techniques could include, but are not limited to, the use of redundant sensors or the use of a reference temperature gauge inserted in a thermal well co-located with the CPMS sensor. In both of the examples given above, each sensor would provide an assessment of the other's operation as demonstrated through a comparison of their individual values, and, when coupled with the other parts of a system accuracy audit and approved by EPA, could fulfill the rule requirements. Affected sources also indicated that the requirement to conduct quarterly checks of the temperature measurement device was unreasonable because engines may be located in remote locations that could be difficult for personnel trained in the equipment performance check procedures to reach on a quarterly basis. EPA recognizes that for these sources, the requirement to conduct quarterly checks may be too burdensome given the remote location of the engines, and has determined that annual checks of the temperature measurement device equipment are acceptable for stationary engines to ensure the equipment is producing valid data. EPA therefore is amending the requirement to specify that the temperature measurement device checks must be performed on an annual basis rather than quarterly.

The August 20, 2010, final amendments specified that the engine owner/operator must develop and submit for approval a site-specific monitoring plan for each CPMS. The monitoring plan must address elements of monitoring system design, performance, and data quality assurance and quality control consistent with the general provisions in part 63 and requirements of 40 CFR part 63, subpart ZZZZ. EPA notes that 40 CFR 63.8(f)(4) of the General Provisions allows the source to use the monitoring plan development and approval process to propose and apply alternatives to CPMS quality assurance and quality control requirements identified in the rule.

Affected sources also indicated that there was insufficient time for sources that were already subject to 40 CFR part 63 subpart ZZZZ to comply with the CPMS operation and maintenance requirements established in the August 20, 2010, final rule. EPA agrees that it is appropriate to provide a period of lead time for sources that would have been immediately affected by the new specifications for CPMS operation and maintenance. EPA is therefore amending the final rule to provide an additional 180 days before sources must comply with the CPMS operation and maintenance procedures in 40 CFR 63.6625(b).

This action also corrects an inadvertent error in 40 CFR 63.6603(a), which should have referenced Table 1b to 40 CFR part 63, subpart ZZZZ in addition to Table 2b. Table 1b includes the operating limitation requirements for existing stationary spark ignition four-stroke rich burn engines greater than 500 horsepower (HP) located at area sources of hazardous air pollutants. The introductory text to Tables 1b and 2b should also have contained a reference to 40 CFR 63.6603, and this action corrects that inadvertent error. This action also corrects an inadvertent error in Table 1b to 40 CFR part 63, subpart ZZZZ. The last line of Item 2 in Table 6 should have read "* * * and not using NSCR," and this action corrects that inadvertent error.

This action also clarifies the initial compliance requirements in Table 5 to 40 CFR part 63, subpart ZZZZ. The table as finalized did not clearly indicate the initial compliance requirements for existing non-emergency stationary engines larger than 500 HP complying with the option to limit the concentration of carbon monoxide (CO) or formaldehyde. The requirements were only shown for existing non-emergency stationary engines larger than 500 HP complying with the option to meet a percent reduction requirement for CO or formaldehyde. The requirements for those engines meeting a concentration limit are the same as those meeting a percent reduction limit,

except that for those engines meeting a concentration limit, emissions are not required to be measured at the inlet of the emission control device as well as the outlet. This action also corrects an inadvertent error in Table 6 to 40 CFR part 63, subpart ZZZZ. Item 13.a. in Table 6 should have read "* * * and not using an oxidation catalyst or NSCR," and this action corrects that inadvertent error.

Finally, this action corrects the definition for "Spark ignition." The word "with" was inadvertently omitted from the definition, and EPA is amending the definition to insert "with" immediately following the phrase "A gasoline-fueled engine; or any other type of engine. * * *"

III. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866, Regulatory Planning and Review (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and is, therefore, not subject to review by the Office of Management and Budget (OMB). This action is a clarification of and correction to certain text in the final rule and is not a "major rule" as defined by 5 U.S.C. 804(2). However, the final rule promulgated on August 20, 2010, was reviewed by OMB.

B. Paperwork Reduction Act

This action does not impose any new information collection burden. This action adds clarifications and corrections to the final standards. However, OMB has previously approved the information collection requirements contained in the existing regulation under the provisions of the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* and has assigned OMB control number 2060–0548. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act 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 impact of this rule on small entities, small entity is defined as: (1) A small business as defined by Small Business Administration (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; 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.

After considering the economic impact of this direct final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small because it does not add any additional regulatory requirements because this action only clarifies the existing compliance requirements and corrects typographical errors.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act (UMRA), 2 U.S.C 1531–1538, requires Federal agencies, unless otherwise prohibited by law, to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Federal agencies must also develop a plan to provide notice to small governments that might be significantly or uniquely affected by any regulatory requirements. The plan must enable officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates and must inform, educate, and advise small governments on compliance with the regulatory requirements.

This direct final 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 one year. Thus, this final rule is not subject to the requirements of section 202 and 205 of the UMRA.

This final action is also not subject to the requirements of section 203 of the UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This final action contains no requirements that apply to such governments, imposes no obligations upon them, and will not result in expenditures by them of $100 million or more in any one year or any disproportionate impacts on them.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999) requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" 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."

This direct 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. None of the affected facilities are owned or operated by State governments. Thus, Executive Order 13132 does not apply to these final rules.

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

Subject to the Executive Order 13175 (65 FR 67249, November 9, 2000) EPA may not issue a regulation that has tribal 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 tribal governments, or EPA consults with tribal officials early in the process of developing the regulation and develops a tribal summary impact statement.

This direct final rule does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. The final rule imposes no new requirements on the one tribally owned facility. Thus, Executive Order 13175 does not apply to this action.

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

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

Order 13045 because it is based solely on technology performance.

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

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

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

This action does not involve changes to the technical standards related to test methods or monitoring methods; thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272) do not apply.

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

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

The direct final rule does not involve special consideration of environmental justice-related issues as required by Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629, February 16, 1994), because it does not change any regulatory requirements. This action merely corrects and clarifies existing requirements.

K. 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. 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). This action is effective May 9, 2011.

List of Subjects in 40 CFR Part 63

Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: March 1, 2011.

Lisa P. Jackson,

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 ZZZZ—[Amended]

■ 2. Section 63.6603 is amended by revising paragraph (a) to read as follows:

§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

* * * * *

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

* * * * *

■ 3. Section 63.6625 is amended by revising paragraph (b) and removing paragraph (k) to read as follows:

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

* * * * *

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (5) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in § 63.8(d). As specified in § 63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (*e.g.*, thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in § 63.8(c)(1) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in § 63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also § 63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-

specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

* * * * *

■ 4. Section 63.6635 is amended by revising paragraphs (b) and (c) to read as follows:

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

* * * * *

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE 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.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

■ 5. Section 63.6675 is amended by revising the definition of *Spark ignition* to read as follows:

§ 63.6635 What definitions apply to this subpart?

* * * * *

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

* * * * *

■ 6. Table 1b to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§ 63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O_2 and using NSCR.	a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O_2 and not using NSCR.	Comply with any operating limitations approved by the Administrator.

■ 7. Table 2b to Subpart ZZZZ of Part 63 introductory text is revised to read as follows:

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§ 63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

* * * * *

■ 8. Table 5 to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations

As stated in §§ 63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS.	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS.	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce CO emissions and not using oxidation catalyst.	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Limit the concentration of CO, and not using oxidation catalyst.	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using § 63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Limit the concentration of CO, and using a CEMS.	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at the outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce formaldehyde emissions and using NSCR.	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce formaldehyde emissions and not using NSCR.	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Limit the concentration of formaldehyde and not using NSCR.	i. The average formaldehyde concentration determined from the initial performance test is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP.	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR.	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
11. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP.	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR.	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP.	a. Reduce CO or formaldehyde emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
13. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP.	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust.	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.

■ 9. Table 6 to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in § 63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP.	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS.	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; [a] and ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP.	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS.	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; [a] and ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP, existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS.	i. Collecting the monitoring data according to § 63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to § 63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP.	a. Reduce formaldehyde emissions and using NSCR.	i. Collecting the catalyst inlet temperature data according to § 63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP.	a. Reduce formaldehyde emissions and not using NSCR.	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP.	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP.	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR.	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; [a] and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP.	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR.	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; [a] and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year.	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE.	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using oxidation catalyst or NSCR.	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE.	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR.	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year.	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR.	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year.	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using an oxidation catalyst or NSCR.	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

[a] After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[FR Doc. 2011–5196 Filed 3–8–11; 8:45 am]
BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 180

[EPA–HQ–OPP–2011–0117; FRL–8863–2]

Potassium Benzoate; Exemption From the Requirement of a Tolerance

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation establishes an exemption from the requirement of a tolerance for residues of potassium benzoate (Cas No. 582–25–2) under 40 CFR 180.910 when used as an inert ingredient (preservative) in pesticide formulations applied to growing crops and raw agricultural commodities after harvest, and under 40 CFR 180.930 when used as an inert ingredient (preservative) in pesticide formulations applied to animals (used for food). Landis International, on behalf of Whitmire Micro-Gen submitted two petitions to EPA under the Federal Food, Drug, and Cosmetic Act (FFDCA), requesting establishment of an exemption from the requirement of a tolerance. This regulation eliminates the need to establish a maximum permissible level for residues of potassium benzoate.

DATES: This regulation is effective March 9, 2011. Objections and requests for hearings must be received on or before May 9, 2011, and must be filed in accordance with the instructions provided in 40 CFR part 178 (*see also* Unit I.C. of the **SUPPLEMENTARY INFORMATION**).

ADDRESSES: EPA has established a docket for this action under docket identification (ID) number EPA–HQ–OPP–2011–0117. All documents in the docket are listed in the docket index available at *http://www.regulations.gov.* Although listed in the index, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available in the electronic docket at *http://www.regulations.gov,* or, if only available in hard copy, at the OPP Regulatory Public Docket in Rm. S–4400, One Potomac Yard (South Bldg.), 2777 S. Crystal Dr., Arlington, VA. The Docket Facility is open from 8:30 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The Docket Facility telephone number is (703) 305–5805.

FOR FURTHER INFORMATION CONTACT: Elizabeth Fertich, Registration Division (7505P), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460–0001; *telephone number:* (703) 347–8560; *e-mail address: fertich.elizabeth@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

You may be potentially affected by this action if you are an agricultural producer, food manufacturer, or pesticide manufacturer. Potentially affected entities may include, but are not limited to:

- Crop production (NAICS code 111).
- Animal production (NAICS code 112).
- Food manufacturing (NAICS code 311).
- Pesticide manufacturing (NAICS code 32532).

This listing is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. Other types of entities not listed in this unit could also be affected. The North American Industrial Classification System (NAICS) codes have been provided to assist you and others in determining whether this action might apply to certain entities. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed under **FOR FURTHER INFORMATION CONTACT.**

B. How can I get electronic access to other related information?

You may access a frequently updated electronic version of 40 CFR part 180 through the Government Printing Office's e-CFR site at *http://www.gpoaccess.gov/ecfr.*

C. How can I file an objection or hearing request?

Under FFDCA section 408(g), 21 U.S.C. 346a, any person may file an objection to any aspect of this regulation and may also request a hearing on those objections. You must file your objection or request a hearing on this regulation in accordance with the instructions provided in 40 CFR part 178. To ensure proper receipt by EPA, you must identify docket ID number EPA–HQ–OPP–2011–0117 in the subject line on the first page of your submission. All objections and requests for a hearing must be in writing, and must be received by the Hearing Clerk on or before May 9, 2011. Addresses for mail and hand delivery of objections and hearing requests are provided in 40 CFR 178.25(b).

In addition to filing an objection or hearing request with the Hearing Clerk as described in 40 CFR part 178, please submit a copy of the filing that does not contain any CBI for inclusion in the public docket. Information not marked confidential pursuant to 40 CFR part 2 may be disclosed publicly by EPA without prior notice. Submit a copy of your non-CBI objection or hearing request, identified by docket ID number EPA–HQ–OPP–2011–0117, by one of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the on-line instructions for submitting comments.
- *Mail:* Office of Pesticide Programs (OPP) Regulatory Public Docket (7502P), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460–0001.
- *Delivery:* OPP Regulatory Public Docket (7502P), Environmental Protection Agency, Rm. S–4400, One Potomac Yard (South Bldg.), 2777 S. Crystal Dr., Arlington, VA. Deliveries are only accepted during the Docket Facility's normal hours of operation

EPA–APPROVED VIRGINIA REGULATIONS AND STATUTES—Continued

State citation	Title/subject	State effective date	EPA approval date	Explanation [former SIP citation]
5–130–50	Forest Management and Agricultural Practices.	3/18/09	3/14/11 [*Insert page number where the document begins*].	Formerly 5–40–5631.
*	*	*	*	*

* * * * *

[FR Doc. 2011–5625 Filed 3–11–11; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2008–0334; FRL–9279–8]

RIN 2060–AQ89

National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is issuing this final rule to stay the requirement for certain affected sources to comply with the title V permit program during the pendency of the reconsideration process. On June 15, 2010, EPA notified Petitioners that the Agency intended to initiate the reconsideration process in response to their request for reconsideration of certain provisions in the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources. Among the provisions EPA is reconsidering is a requirement that certain affected sources obtain a permit.

On December 14, 2010, EPA issued a 90-day stay of the requirement for certain affected sources to comply with the title V permit program. Because we believed that the reconsideration process would not be completed within 90 days, we concurrently proposed to stay the provision requiring certain sources to obtain a permit until the final reconsideration rule is published in the **Federal Register**. After considering the comments received, EPA is promulgating the stay of compliance through this final rule.

DATES: This final rule is effective on March 14, 2011.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2008–0334. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, confidential business information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov*, or in hard copy at the EPA Docket Center, Public Reading Room, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Mr. Nick Parsons, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Refining and Chemicals Group (E143–01), Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541–5372; fax number: (919) 541–0246; e-mail address: *parsons.nick@epa.gov*.

SUPPLEMENTARY INFORMATION:

I. Background

The EPA published final National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources (CMAS) on October 29, 2009. 40 CFR part 63, subpart VVVVVV (74 FR 56008). Included in the final rule was a new provision that stated "[a]ny source that was a major source and installed a control device on a CMPU[1] after November 15, 1990, and, as a result, became an area source under 40 CFR part 63 is required to obtain a permit under 40 CFR part 70 or 40 CFR part 71." See 40 CFR 63.11494(e).

On February 12, 2010, the American Chemistry Council and the Society of Chemical Manufacturers and Affiliates (collectively referred to as "Petitioners") sought reconsideration of six provisions in the final rule, including the provision requiring certain sources to obtain a title V permit. On June 15, 2010, EPA notified Petitioners that the Agency intended to initiate the reconsideration process. EPA also separately notified Petitioners that the provision requiring certain sources to obtain a title V permit was among the provisions for which EPA would grant reconsideration.

By letter dated October 28, 2010, Petitioners requested a stay of the requirement to comply with the title V permit program, specifically the requirement to submit a title V permit application, pending completion of the reconsideration process. Petitioners stated in their letter that they were requesting the stay because EPA has yet to initiate the reconsideration process, and, "under one interpretation of EPA's [40 CFR part 70 and 40 CFR part 71] regulations, existing sources must file Title V permit applications [by] October 29, 2010." Petitioners maintained that it would be unreasonable and inequitable to require facilities to prepare and submit title V applications at the same time that EPA is reconsidering the requirement to obtain a title V permit.

On December 14, 2010, we issued a 90-day stay of the requirement for certain sources to obtain a title V permit, and we concurrently proposed extending the stay beyond the 90-day period until the reconsideration process is completed (75 FR 77760 and 75 FR 77799). As explained in the proposal notice, we proposed the stay because facilities had no chance to comment on this new requirement in the final rule, and because we are reconsidering the title V permitting requirement. Furthermore, because we cannot pre-judge the outcome of the reconsideration process, we stated that a limited stay during the duration of the administrative reconsideration process is appropriate so that sources are not incurring the cost associated with applying for a title V permit in advance of our final decision on the issue.

II. What action is EPA taking?

We are issuing a stay of the provision in 40 CFR 63.11494(e) that requires "[a]ny source that was a major source and installed a control device on a CMPU after November 15, 1990, and, as a result, became an area source under 40 CFR part 63 is required to obtain a

[1] Chemical Manufacturing Process Unit.

permit under 40 CFR part 70 or 40 CFR part 71" until the final reconsideration rule is published in the **Federal Register**.

III. What are the major comments and responses to those comments?

We received five comments in support of the proposed stay. In addition, four of the commenters also provided comments objecting to EPA finalizing the title V permit requirement as part of our reconsideration. Because we received no adverse comment on the proposed stay of the title V permitting requirement, we are taking final action to extend the stay until the final reconsideration rule is published in the **Federal Register**. This action deals only with the stay. We will discuss and request comment on the title V permitting issue in the forthcoming reconsideration notice.

IV. What are the changes since proposal?

No changes have been made to the proposed stay (75 FR 77799). Thus, the final rule is identical to the proposed rule.

V. What are the impacts of the final rule?

The stay will not change the estimated environmental and cost impacts of the rule because it does not apply to the control requirements in the rule. However, the burden associated with conducting activities related to preparing permit applications will, at a minimum, be delayed for the duration of the stay.

VI. Statutory and Executive Order Reviews

A. General Requirements

Under Executive Order 12866 (58 FR 51735, October 4, 1993), and Executive Order 13563 (76 FR 3821, January 21, 2011), this action is not a "significant regulatory action," and, therefore, is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). In addition, this action does not impose any enforceable duty or contain any unfunded mandate as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4), or require prior consultation with State officials, as specified by Executive Order 12875 (58 FR 58093, October 28, 1993), or involve special consideration of environmental justice related issues, as required by Executive Order 12898 (59 FR 7629, February 16, 1994). Pursuant to the Regulatory Flexibility Act, I certify that this action will not have a significant economic impact on a substantial number of small entities. This final rule will not impose any new requirements on small entities. This action also does not have Tribal implications because it will not have a substantial direct effect on one or more Indian Tribes, on the relationship between the Federal government and Indian Tribes, or on the distribution of power and responsibilities between the Federal government and Indian Tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). This action also does not have Federalism implications because it does 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 (64 FR 43255, August 10, 1999). This action also is not subject to Executive Order 13045 "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997). The requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, *et seq.*). EPA's compliance with these statutes and Executive Orders for the underlying rule is discussed in the October 29, 2009, **Federal Register** document.

B. Submission to Congress and the Comptroller General

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. EPA will submit a report containing this notice 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 rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. The stay of these particular provisions in 40 CFR part 63, subpart VVVVVV is not a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective March 14, 2011.

List of Subjects in 40 CFR Part 63

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

Dated: March 8, 2011.

Lisa P. Jackson,

Administrator.

For the reasons stated in the preamble, title 40, chapter I 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.*

§ 63.11494 [STAYED IN PART]

■ 2. In § 63.11494, paragraph (e) is stayed from March 14, 2011, until further notice.

[FR Doc. 2011–5778 Filed 3–11–11; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Medicare & Medicaid Services

42 CFR Part 413

[CMS–1430–IFC]

RIN 0938–AQ92

Medicare Program; Revisions to the Reductions and Increases to Hospitals' FTE Resident Caps for Graduate Medical Education Payment Purposes

AGENCY: Centers for Medicare & Medicaid Services (CMS), HHS.

ACTION: Interim final rule with comment period.

SUMMARY: This interim final rule with comment period implements section 203 of the Medicare and Medicaid Extenders Act of 2010 relating to the treatment of teaching hospitals that are members of the same Medicare graduate medical education affiliated groups for the purpose of determining possible full-time equivalent resident cap reductions.

DATES: *Effective Date:* These regulations are effective on March 14, 2011.

Comment Date: To be assured consideration, comments must be received at one of the addresses provided below, no later than 5 p.m. on April 13, 2011.

ADDRESSES: In commenting, please refer to file code CMS–1430–IFC. Because of staff and resource limitations, we cannot

FEDERAL REGISTER

Vol. 76 Monday,
No. 54 March 21, 2011

Part IV

Environmental Protection Agency

40 CFR Part 63
National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2006–0790; FRL–9273–5]

RIN 2060–AM44

National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is promulgating national emission standards for control of hazardous air pollutants from two area source categories: Industrial boilers and commercial and institutional boilers. The final emission standards for control of mercury and polycyclic organic matter emissions from coal-fired area source boilers are based on the maximum achievable control technology. The final emission standards for control of hazardous air pollutants emissions from biomass-fired and oil-fired area source boilers are based on EPA's determination as to what constitutes the generally available control technology or management practices.

DATES: *Effective Date:* This final rule is effective on May 20, 2011. The incorporation by reference of certain publications listed in this final rule were approved by the Director of the Federal Register as of May 20, 2011.

ADDRESSES: EPA established a docket under Docket ID No. EPA–HQ–OAR–2006–0790 for this action. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at EPA's Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC. This Docket Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Mr. James Eddinger, Energy Strategies Group, Sector Policies and Programs Division, (D243–01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; Telephone number: (919) 541–5426; Fax number (919) 541–5450; e-mail address: *eddinger.jim@epa.gov.*

SUPPLEMENTARY INFORMATION:

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

Btu British thermal unit
CAA Clean Air Act
CBI Confidential Business Information
CEMS Continuous Emission Monitoring System
CFR Code of Federal Regulations
CO Carbon monoxide
ERT Electronic Reporting Tool
FR **Federal Register**
GACT Generally Available Control Technology
HAP Hazardous Air Pollutant
HCl Hydrogen chloride
ICR Information Collection Request
kWh Kilowatt hour
MACT Maximum Achievable Control Technology
MMBtu/h Million Btu per hour
NAICS North American Industry Classification System
NESHAP National Emission Standards for Hazardous Air Pollutants
NO_X Nitrogen oxides
NSPS New Source Performance Standards
PM Particulate matter
$PM_{2.5}$ Fine particulate matter
POM Polycyclic organic matter
ppm Parts per million
RCRA Resource Conservation and Recovery Act
TBtu Trillion British thermal units
tpy Tons per year
SO_2 Sulfur dioxide
UPL Upper Prediction limit
VOC Volatile organic compound

Organization of This Document. The information in this preamble is organized as follows:

I. General Information
A. Does this action apply to me?
B. Where can I get a copy of this document?
C. Judicial Review
II. Background Information
A. What is the statutory authority and regulatory approach for this final rule?
B. What source categories are affected by the standards?
C. What is the relationship between this rule and other related national emission standards?
D. How did we gather information for this rule?
E. How are the area source boiler HAP addressed by this rule?
F. What are the costs and benefits of this final rule?
III. Summary of This Final Rule
A. Do these standards apply to my source?
B. What is the affected source?
C. When must I comply with the final standards?
D. What are the MACT and GACT standards?
E. What are the Startup, Shutdown, and Malfunction (SSM) requirements?
F. What are the initial compliance requirements?
G. What are the continuous compliance requirements?
H. What are the notification, recordkeeping and reporting requirements?
I. Submission of Emissions Test Results to EPA
IV. Summary of Significant Changes Following Proposal
A. Changes to Subcategories
B. Change From MACT to GACT for Biomass and Oil Subcategories
C. MACT Floor UPL Methodology/ Emission Limits
D. Clarification of Energy Assessment Requirements
E. Revised Subcategory Limits
F. Demonstrating Compliance
G. Affirmative Defense
H. Technical/Editorial Corrections
V. Significant Area Source Public Comments and Rationale for Changes to Proposed Rule
A. Legal and Applicability Issues
B. CO Limits
C. MACT Floor Analysis
D. Beyond the Floor Analysis
E. GACT Standards
F. Subcategories
G. Startup, Shutdown, and Malfunction
H. Compliance Requirements
I. Cost/Economic Impacts
J. Title V Permitting Requirements
VI. Relationship of this Action to CAA Section 112(c)(6)
VII. Summary of the Impacts of This Final Rule
A. What are the air impacts?
B. What are the cost impacts?
C. What are the economic impacts?
D. What are the benefits?
E. What are the water and solid waste impacts?
F. What are the energy impacts?
VIII. Statutory and Executive Order Review
A. Executive Order 12866 and 13563: Regulatory Planning and Review
B. Paperwork Reduction Act
C. Regulatory Flexibility Act, as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996
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. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act

I. General Information

A. Does this action apply to me?

The regulated categories and entities potentially affected by the final standards include:

Category	NAICS code [1]	Examples of regulated entities
Any area source facility using a boiler as defined in this proposed rule	321	Wood product manufacturing.
	11	Agriculture, greenhouses.
	311	Food manufacturing.
	327	Nonmetallic mineral product manufacturing.
	424	Wholesale trade, nondurable goods.
	531	Real estate.
	611	Educational services.
	813	Religious, civic, professional, and similar organizations.
	92	Public administration.
	722	Food services and drinking places.
	62	Health care and social assistance.

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. To determine whether your facility, company, business, organization, etc., is regulated by this action, you should examine the applicability criteria in 40 CFR 63.11193 of subpart JJJJJJ (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources). If you have any questions regarding the applicability of this action to a particular entity, consult either the delegated regulatory authority for the entity or your EPA regional representative as listed in 40 CFR 63.13 of subpart A (General Provisions).

B. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Worldwide Web (WWW) through the Technology Transfer Network (TTN). Following signature, a copy of the final action will be posted on the TTN's 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.

C. Judicial Review

Under section 307(b)(1) of the CAA, judicial review of this final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit (the Court) by May 20, 2011. Under CAA section 307(d)(7)(B), only an objection to this final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. CAA section 307(d)(7)(B) also provides a mechanism for EPA to convene a proceeding for reconsideration, "[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule." Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, Environmental Protection Agency, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460, with a copy to the person listed in the preceding **FOR FURTHER GENERAL INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20004. Note, under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

II. Background Information

A. What is the statutory authority and regulatory approach for this final rule?

Section 112(d) of the CAA requires us to establish NESHAP for both major and area sources of HAP that are listed for regulation under CAA section 112(c). A major source emits or has the potential to emit 10 tpy or more of any single HAP or 25 tpy or more of any combination of HAP. An area source is a HAP-emitting stationary source that is not a major source.

Section 112(k)(3)(B) of the CAA calls for EPA to identify at least 30 HAP which, as the result of emissions from area sources, pose the greatest threat to public health in the largest number of urban areas. EPA implemented this provision in 1999 in the Integrated Urban Air Toxics Strategy (Strategy), (64 FR 38715, July 19, 1999). Specifically, in the Strategy, EPA identified 30 HAP that pose the greatest potential health threat in urban areas, and these HAP are referred to as the "30 urban HAP." CAA section 112(c)(3) requires EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the emissions of the 30 urban HAP are subject to regulation. A primary goal of the Strategy is to achieve a 75 percent reduction in cancer incidence attributable to HAP emitted from stationary sources.

Under CAA section 112(d)(5), we may elect to promulgate standards or requirements for area sources "which provide for the use of generally

available control technologies ["GACT"] or management practices by such sources to reduce emissions of hazardous air pollutants." Additional information on GACT is found in the Senate report on the legislation (Senate Report Number 101–228, December 20, 1989), which describes GACT as:

> * * * methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

Consistent with the legislative history, we can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories that may have many small businesses such as these.

Determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category. We also consider the standards applicable to major sources in the analogous source category to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source categories at issue. Finally, as noted above, in determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.

While GACT may be a basis for standards for most types of HAP emitted from area sources, CAA section 112(c)(6) requires that EPA list categories and subcategories of sources assuring that sources accounting for not less than 90 percent of the aggregate emissions of each of seven specified HAP are subject to standards under CAA sections 112(d)(2) or (d)(4), which require the application of the more stringent MACT. The seven HAP specified in CAA section 112(c)(6) are as follows: Alkylated lead compounds, POM, hexachlorobenzene, mercury, polychlorinated biphenyls (PCBs), 2,3,7,8-tetrachlorodibenzofurans, and 2,3,7,8-tetrachlorodibenzo-p-dioxin.

The CAA section 112(c)(6) list of source categories currently includes industrial coal combustion, industrial oil combustion, industrial wood combustion, commercial coal combustion, commercial oil combustion, and commercial wood combustion. (*See* 63 FR 17849, April 10, 1998.) We listed these source categories under CAA section 112(c)(6) based on the source categories' contribution of mercury and POM. In the documentation for the CAA section 112(c)(6) listing, the commercial fuel combustion categories included institutional fuel combustion. (*See* "1990 Emissions Inventory of Section 112(c)(6) Pollutants, Final Report," April 1998.) As discussed in the preamble to the proposed rule, we concluded we only needed to address mercury emissions from the coal-fueled portion of these categories in order to ensure that 90 percent of the aggregate emissions of mercury would be subject to standards under CAA sections 112(d)(2) or 112(d)(4). (*See* 75 FR 31898, June 4, 2010.) As discussed in this preamble, based on public comments received, we re-examined the emission inventory and the need to address POM emissions from the area source subcategories to meet the CAA section 112(c)(6) 90 percent requirement, and concluded we only need to address POM emissions from the coal-fueled portion of these categories under CAA section 112(d)(2) or 112(d)(4).

With this final rule and the major source boilers rule, we believe that we have subjected to regulation at least 90 percent of the CAA section 112(c)(6) 1990 emissions inventory for mercury and POM. Consequently, we are regulating coal-fired area source boilers under MACT because we need these sources to meet the 90 percent requirement for mercury and POM in CAA section 112(c)(6).

The "MACT" required by CAA sections 112(d)(2) or 112(d)(4) can be based on the emissions reductions achievable through application of measures, processes, methods, systems, or techniques including, but not limited to: (1) Reducing the volume of, or eliminating emissions of, such pollutants through process changes, substitutions of materials, or other modifications; (2) enclosing systems or processes to eliminate emissions; (3) collecting, capturing, or treating such pollutants when released from a process, stack, storage or fugitive emission point; (4) design, equipment, work practices, or operational standards as provided in CAA section 112(h); or (5) a combination of the above.

The MACT floor is the minimum control level allowed for NESHAP and is defined under CAA section 112(d)(3). For new sources, MACT based standards cannot be less stringent than the emission control achieved in practice by the best-controlled similar source, as determined by the Administrator. The MACT based 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 (for which the Administrator has emission information) for source categories and subcategories with 30 or more sources, or the best performing 5 sources for categories and subcategories with fewer than 30 sources (CAA section 112(d)(3)(A) and (B)).

Although emission standards are often structured in terms of numerical emissions limits, alternative approaches are sometimes necessary and authorized pursuant to CAA section 112. For example, in some cases, physically measuring emissions from a source may not be practicable due to technological and economic limitations. Section 112(h) of the CAA authorizes the Administrator to promulgate a design, equipment, work practice, or operational standard, or combination thereof, consistent with the provisions of CAA sections 112(d) or (f), in those cases where, in the judgment of the Administrator, it is not feasible to prescribe or enforce an emission standard. Section 112(h)(2) of the CAA provides that the phrase "not feasible to prescribe or enforce an emission standard" includes "the situation in which the Administrator determines that * * * the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations."

As noted above in this section of the preamble, we listed industrial coal combustion, industrial oil combustion, industrial wood combustion, commercial coal combustion, commercial oil combustion, and commercial wood combustion under CAA section 112(c)(6) based on the source categories' contribution of mercury and POM. We listed these same categories under CAA section 112(c)(3) for their contribution of mercury, arsenic, beryllium, cadmium, lead, chromium, manganese, nickel, POM (as 7-PAH (polynuclear aromatic hydrocarbons)), ethylene dioxide, and PCBs.

We have developed final standards to reflect the application of MACT for mercury and POM from coal-fired area source boilers and have applied GACT for the urban HAP noted above for boilers firing other fuels and for urban

HAP (other than mercury and POM) from coal-fired area source boilers.

B. What source categories are affected by the standards?

The source categories affected by the standards are industrial boilers and commercial and institutional boilers. Both source categories were included in the area source list published on July 19, 1999 (64 FR 38721). The inclusion of these two source categories on the CAA section 112(c)(3) area source category list is based on 1990 emissions data, as EPA used 1990 as the baseline year for that listing. We describe above in Section II.A of this preamble the pollutants that formed the basis of the listings.

This rule applies to all existing and new industrial boilers, institutional boilers, and commercial boilers located at area sources. Boiler means an enclosed combustion device having the primary purpose of recovering thermal energy in the form of steam or hot water. The industrial boiler source category includes boilers used in manufacturing, processing, mining, refining, or any other industry. The commercial boiler source category includes boilers used in commercial establishments such as stores/malls, laundries, apartments, restaurants, and hotels/motels. The institutional boiler source category includes boilers used in medical centers (e.g., hospitals, clinics, nursing homes), educational and religious facilities (e.g., schools, universities, churches), and municipal buildings (e.g., courthouses, prisons).

C. What is the relationship between this rule and other related national emission standards?

This rule regulates industrial boilers and institutional/commercial boilers that are located at area sources of HAP. Today, in a parallel action, a NESHAP for industrial, commercial, and institutional boilers and process heaters located at major sources is being promulgated reflecting the application of MACT. The major source NESHAP regulates emissions of PM (as a surrogate for non-mercury metals), mercury, HCl (as a surrogate for acid gases), dioxins/furans, and CO (as a surrogate for non-dioxin organic HAP) from existing and new major source boilers.

This rule covers boilers located at area source facilities. In addition to the major source MACT for boilers being issued today, the Agency is also issuing emission standards today pursuant to CAA section 129 for commercial and industrial solid waste incineration units. In a parallel action, EPA is finalizing a solid waste definition rulemaking pursuant to subtitle D of RCRA. That action is relevant to this proceeding because if an industrial, commercial, or institutional boiler located at an area source combusts secondary materials that are "solid waste," as that term is defined by the Administrator under RCRA, those boilers would be subject to section 129 of the CAA, not section 112.

As background, in 2007, the United States Court of Appeals for the District of Columbia Circuit (DC Circuit) vacated the "CISWI Definitions Rule" (70 FR 55568, September 22, 2005), which amended the definitions of "commercial and industrial solid waste incinerator (CISWI)," "commercial or industrial waste," and "solid waste" in 40 CFR 60, subparts CCCC and DDDD, and which EPA issued pursuant to CAA section 129. The Court found that the definitions in that rule were inconsistent with the CAA. Specifically, the Court held that the term "solid waste incineration unit" in CAA section 129(g)(1) "unambiguously include[s] among the incineration units subject to its standards any facility that combusts any commercial or industrial solid waste material at all—subject to the four statutory exceptions identified [in CAA section 129(g)(1)]." *NRDC* v. *EPA*, 489 F.3d at 1257–58.

Based on the information available to the Agency, we determined that the boilers that are subject to this area source rule combust predominantly coal, oil, or biomass. We have further determined that the boilers subject to this rule may combust non-hazardous secondary materials that do not meet the definition of "solid waste" pursuant to the rulemaking of subtitle D of RCRA. A boiler located at an area source burning any secondary materials considered "solid waste" would be considered a solid waste incineration unit subject to regulation under CAA section 129. In the final area source boiler rulemaking, EPA is providing specific language to ensure clarity regarding the necessary steps that must be followed for combustion units that begin combusting non-hazardous solid waste materials and become subject to section 129 standards instead of section 112 standards or combustion units that discontinue combustion of non-hazardous solid waste materials and become subject to section 112 standards instead of section 129 standards.

Some of the affected sources subject to this rule may also be subject to the NSPS for industrial, commercial, and institutional boilers (40 CFR part 60, subparts Db and Dc). EPA codified these NSPS in 1986, and revised portions of them in 1999 and 2006. The two NSPS regulate emissions of PM, SO_2, and NO_x from boilers constructed after June 19, 1984. Sources subject to the NSPS that are located at area source facilities are also subject to this rule because this rule regulates HAP. In developing this rule, we have streamlined the monitoring and recordkeeping requirements to avoid duplicating requirements in the NSPS.

D. How did we gather information for this rule?

We gathered information for this rule from states' boiler inspection lists, company Web sites, published literature, state permits, current state and federal regulations, and from an ICR conducted for the major source NESHAP. After proposal, we received additional emission test reports during the public comment period.

We developed an initial nationwide population of area source boilers based on boiler inspector data-bases from 13 states. The boiler inspector data-bases include steam boilers that are required to be inspected for safety or insurance purposes. We classified the area source boilers to NAICS codes based on the "name" of the facility at which the boiler was located. However, many of the boilers in the boiler inspector data-base could not be readily assigned to an NAICS code and, thus, we did not categorize them.

We reviewed state and other federal regulations that apply to the area sources in the source categories for information concerning existing HAP emission control approaches. For example, as noted above, the NSPS for small industrial, commercial, and institutional boilers in 40 CFR part 60, subpart Dc apply to boilers at some area sources. Similarly, permit requirements established by the Ohio, Illinois, Vermont, New Hampshire, and Maine air regulatory agencies apply to some area sources. We also reviewed standards for boilers at major sources that would be appropriate for and transferable to boilers at area sources. For example, we determined that management practices, such as, tune-ups and operator training applicable to major source boilers are also feasible for boilers at area sources.

E. How are the area source boiler HAP addressed by this rule?

As explained in Section II.A of this preamble, industrial coal combustion, industrial oil combustion, industrial wood combustion, commercial coal combustion, commercial oil combustion, and commercial wood combustion are listed under CAA section 112(c)(6) due to contributions of mercury and POM and these same categories are listed under CAA section 112(c)(3) for their contribution of mercury, arsenic, beryllium, cadmium, lead, chromium, manganese, nickel, POM, ethylene dioxide, and PCB.

With respect to the CAA section 112(c)(3) pollutants, we used surrogates because, as explained in this section of the preamble, it was not practical to establish individual standards for each specific HAP. We grouped the CAA section 112(c)(3) pollutants, which formed the basis for the listing of these two source categories, into three common groupings: Mercury, non-mercury metallic HAP (arsenic, beryllium, cadmium, chromium, lead, manganese, and nickel), and organic HAP (POM, ethylene dichloride, and PCB). In general, the pollutants within each group have similar characteristics and can be controlled with the same techniques.

For the non-mercury metallic HAP, we selected PM as a surrogate. The inherent variability and unpredictability of the non-mercury metal HAP compositions and amounts in fuel has a material effect on the composition and amount of non-mercury metal HAP in the emissions from the boiler. As a result, establishing individual numerical emissions limits for each non-mercury HAP metal species is difficult given the level of uncertainty about the individual non-mercury metal HAP compositions of the fuels that will be combusted. An emission characteristic common to all boilers is that the non-mercury metal HAP are a component of the PM contained in the fly ash emitted from the boiler. A sufficient correlation exists between PM and non-mercury metallic HAP to rely on PM as a surrogate for these HAP and for their control.[1] Therefore, the same control techniques that would be used to control the fly-ash PM will control non-mercury metallic HAP. Emissions limits established to achieve control of PM will also achieve control of non-mercury metallic HAP. Furthermore, establishing separate standards for each individual HAP would impose costly and significantly more complex compliance and monitoring requirements and achieve little, if any, HAP emissions reductions beyond what would be achieved using the surrogate pollutant approach.

For organic urban HAP, we selected CO as a surrogate for organic compounds, including POM, emitted from the various fuels burned in boilers. The presence of CO is an indicator of incomplete combustion. A high level of CO in emissions is a potential indication of elevated organic HAP emissions because organic HAP, like CO, are formed as a byproduct of combustion, and both would increase with an increase in the level of incomplete combustion. 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. We considered other surrogates, such as total hydrocarbon (THC), but lacked data on emissions and permit limits for area source boilers. Therefore, using CO as a surrogate for organic urban HAP is a reasonable approach because minimizing CO emissions will result in minimizing organic urban HAP emissions.

Based on these considerations, we are promulgating GACT standards for PM (as a surrogate for the individual urban metal HAP) for coal, biomass, and oil-fired boilers and CO (as a surrogate pollutant for the individual urban organic HAP) for biomass-fired and oil-fired boilers. We are also establishing MACT standards for mercury and for POM (using CO as a surrogate pollutant) for coal-fired boilers. The MACT standard for POM from coal-fired boilers would also be GACT for urban organic HAP other than POM.

F. What are the costs and benefits of this final rule?

EPA estimated the costs and benefits associated with the final rule, and the results are shown in the following table. For more information on the costs and benefits for this rule, see the Regulatory Impact Analysis (RIA).

SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE BOILER AREA SOURCE RULE IN 2014

[Millions of 2008$] [1]

	3% Discount rate	7% Discount rate
Final MACT/GACT Approach: Selected		
Total Monetized Benefits [2]	$210 to $520	$190 to $470
Total Social Costs [3]	$490	$490
Net Benefits	−$280 to $30	−$300 to −$20
Non-monetized Benefits;	1,100 tons of carbon monoxide 340 tons of HCl 8 tons of HF 90 pounds of mercury 320 tons of other metals < 1 gram of dioxins/furans (TEQ) Health effects from SO_2 exposure Ecosystem effects Visibility impairment	
Proposed MACT Approach: Alternative		
Total Monetized Benefits [2]	$200 to $490	$180 to $440
Total Social Costs [3]	$850	$850

[1] In *National Lime Ass'n v. EPA*, 233 F. 3d 625, 633 (DC Cir. 2000), the court upheld EPA's use of particulate matter as a surrogate for HAP metals.

SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE BOILER AREA SOURCE RULE IN 2014—Continued

[Millions of 2008$] [1]

	3% Discount rate	7% Discount rate
Net Benefits	−$650 to −$360	−$670 to −$410
Non-monetized Benefits	1,100 tons of carbon monoxide 340 tons of HCl 8 tons of HF 90 pounds of mercury 320 tons of other metals <1 gram of dioxins/furans (TEQ) Health effects from SO_2 exposure Ecosystem effects Visibility impairment	

[1] All estimates are for the implementation year (2014), and are rounded to two significant figures. These results include units anticipated to come online and the lowest cost disposal assumption.

[2] The total monetized benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors such as SO_2. It is important to note that the monetized benefits include many but not all health effects associated with $PM_{2.5}$ exposure. Benefits are shown as a range from Pope *et al.* (2002) to Laden et al. (2006). These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type. These estimates include energy disbenefits valued at less than $1 million.

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

III. Summary of This Final Rule

A. Do these standards apply to my source?

This rule applies to you if you own or operate a boiler combusting solid fossil fuels, biomass, or liquid fuels located at an area source. The standards do not apply to boilers that are subject to another standard under 40 CFR part 63 or to a standard developed under CAA section 129.

This rule applies to you if you own or operate a boiler combusting natural gas, located at an area source, which switches to combusting solid fossil fuels, biomass, or liquid fuel after June 4, 2010.

B. What is the affected source?

This final rule affects industrial boilers, institutional boilers, and commercial boilers. The affected source is the collection of all existing boilers within a subcategory located at an area source facility or each new boiler located at an area source facility.

C. When must I comply with these standards?

The owner or operator of an existing source subject to a work practice or management practice standard of a tune-up is required to comply with this final rule no later than March 21, 2012. The owner or operator of an existing source subject to emission limits or an energy assessment requirement is required to comply with this final rule no later than March 21, 2014. The owner or operator of a new source is required to comply on May 20, 2011 or upon startup of the facility, whichever is later. Owners and operators subject to 40 part CFR 60, subpart CCCC or subpart DDDD who cease combusting solid waste must be in compliance with this subpart on the effective date that the unit ceased combusting solid waste, consistent with 40 CFR part 60, subpart CCCC or subpart DDDD.

D. What are the MACT and GACT standards?

Emission standards are in the form of numerical emission limits for new and existing area source boilers. The MACT emission limits for mercury and CO (as a surrogate for POM) are presented, along with the GACT emission limits for PM (as a surrogate for urban metals), in Table 1 of this preamble. The units are pounds of PM or mercury per million British thermal units (lb/MMBtu) and ppm for CO.

TABLE 1—EMISSION LIMITS FOR AREA SOURCE BOILERS

Subcategory	Heat input (MMBtu/h)	Pollutants	Emission limits
New coal-fired boiler	≥30	a. Particulate Matter	0.03 lb per MMBtu of heat input.
		b. Mercury	0.0000048 lb per MMBtu of heat input.
		c. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen.
	≥10 and <30	a. Particulate Matter	0.42 lb per MMBtu of heat input.
		b. Mercury	0.0000048 lb per MMBtu of heat input.
		c. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen.
New biomass-fired boiler	≥30	Particulate Matter	0.03 lb per MMBtu of heat input.
	≥10 and <30	Particulate Matter	0.07 lb per MMBtu of heat input.
New oil-fired boiler	≥30	Particulate Matter	0.03 lb per MMBtu of heat input.
	≥10 and <30	Particulate Matter	0.03 lb per MMBtu of heat input.
Existing coal-Fired boiler	≥10	a. Mercury	0.0000048 lb per MMBtu of heat input.

TABLE 1—EMISSION LIMITS FOR AREA SOURCE BOILERS—Continued

Subcategory	Heat input (MMBtu/h)	Pollutants	Emission limits
		b. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 7 percent oxygen.

The emission limits for PM apply only to new boilers. The emission limits for mercury and CO apply only to boilers in the coal subcategory; the emission limits for existing area source boilers in the coal subcategory are applicable only to area source boilers that have a designed heat input capacity of 10 million MMBtu/h or greater.

If your boiler burns any solid fossil fuel and no more than 15 percent biomass on a total fuel annual heat input basis, the boiler is in the coal subcategory. If your boiler burns at least 15 percent biomass on a total fuel annual heat input basis, the unit is in the biomass subcategory. If your boiler burns any liquid fuel and is not in either the coal or the biomass subcategory, the unit is in the oil subcategory, except if the unit burns oil only during periods of gas curtailment.

As allowed under CAA section 112(h), a work practice standard is being promulgated for new and existing coal-fired area source boilers with a designed heat input capacity of less than 10 MMBtu/h. The work practice standard for new and existing coal-fired area source boilers requires the implementation of a tune-up program. We are also requiring all biomass-fired and oil-fired area source boilers to implement a tune-up program as a management practice.

An additional standard is being promulgated for existing area source facilities having an affected boiler with a designed heat input capacity of 10 MMBtu/h or greater that requires the performance of an energy assessment, by qualified personnel, on the boiler and its energy use systems to identify cost-effective energy conservation measures.

E. What are the startup, shutdown, and malfunction (SSM) requirements?

The United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in EPA's CAA section 112 regulations governing the emissions of HAP during periods of startup, shutdown, and malfunction (SSM). *Sierra Club* v. *EPA*, 551 F.3d 1019 (DC Cir. 2008), cert. denied, 130 S. Ct. 1735 (U.S. 2010). Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), that are part of a regulation, commonly referred to as the "General Provisions Rule" (40 CFR 63, subpart A), that EPA promulgated under CAA section 112 of the CAA. When incorporated into CAA section 112(d) regulations for specific source categories, these two provisions exempted sources from the requirement to comply with the otherwise applicable CAA section 112(d) emission standard during periods of SSM.

Consistent with *Sierra Club* v. *EPA*, EPA has established standards in this rule that apply at all times. EPA has attempted to ensure that we have not incorporated into the regulatory language any provisions that are inappropriate, unnecessary, or redundant in the absence of an SSM exemption.

In establishing the standards in this rule, EPA has taken into account startup and shutdown periods and, for the reasons explained below, has established different standards for those periods.

EPA has revised this final rule to require sources to meet a work practice standard, including following the manufacturer's recommended procedures for minimizing startup and shutdown periods, to demonstrate compliance with the emission limits for all subcategories of new and existing area source boilers (that would otherwise be subject to numeric emission limits) during periods of startup and shutdown. As discussed in Section V.G of this preamble, we considered whether performance testing, and therefore, enforcement of numeric emission limits, would be practicable during periods of startup and shutdown. With regards to performance testing, EPA determined that it is not technically feasible to complete stack testing—in particular, to repeat the multiple required test runs—during periods of startup and shutdown due to physical limitations and the short duration of startup and shutdown periods. Operating in startup and shutdown mode for sufficient time to conduct the required test runs could result in higher emissions than would otherwise occur. Based on these specific facts for the boilers and process heater source category, EPA has developed a separate standard for these periods, and we are finalizing work practice standards to meet this requirement. The work practice standard requires sources to minimize periods of startup and shutdown following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, sources must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. However, by contrast, malfunction is defined as a "sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner * * *" (40 CFR 63.2). EPA has determined that malfunctions should not be viewed as a distinct operating mode and, therefore, any emissions that occur at such times do not need to be factored into development of CAA section 112(d) standards, which, once promulgated, apply at all times. In *Mossville Environmental Action Now* v. *EPA*, 370 F.3d 1232, 1242 (DC Cir. 2004), the court upheld as reasonable standards that had factored in variability of emissions under all operating conditions. However, nothing in section 112(d) or in case law requires that EPA anticipate and account for the innumerable types of potential malfunction events in setting emission standards. *See, Weyerhaeuser* v. *Costle*, 590 F.2d 1011, 1058 (DC Cir. 1978) ("In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation.").

Further, it is reasonable to interpret CAA section 112(d) as not requiring EPA to account for malfunctions in setting emissions standards. For example, we note that CAA section 112 uses the concept of "best performing" sources in defining MACT, the level of

stringency that major source standards must meet. Applying the concept of "best performing" to a source that is malfunctioning presents significant difficulties. The goal of best performing sources is to operate in such a way as to avoid malfunctions of their units. Similarly, although standards for area sources are generally not required to be set based on "best performers," we believe that what is "generally available" should not be based on periods in which there is a "failure to operate."

Moreover, even if malfunctions were considered a distinct operating mode, we believe it would be impracticable to take malfunctions into account in setting CAA section 112(d) standards for area source boilers. As noted above, by definition, malfunctions are sudden and unexpected events and it would be difficult to set a standard that takes into account the myriad different types of malfunctions that can occur across all sources in the category. Moreover, malfunctions can vary in frequency, degree, and duration, further complicating standard setting.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event (*see* 40 CFR 63.2 (definition of malfunction), EPA must determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. EPA would also consider whether the source's failure to comply with the CAA section 112(d) standard was, in fact, "sudden, infrequent, not reasonably preventable" and was not instead "caused in part by poor maintenance or careless operation." (*See* 40 CFR 63.2 (definition of malfunction).)

Finally, EPA recognizes that even equipment that is properly designed and maintained can sometimes fail and that such failure can sometimes cause an exceedance of the relevant emission standard. (*See, e.g.,* State Implementation Plans: Policy Regarding Excessive Emissions During Malfunctions, Startup, and Shutdown (September 20, 1999); Policy on Excess Emissions During Startup, Shutdown, Maintenance, and Malfunctions (February 15, 1983)). EPA is therefore adding to this final rule an affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions. (*See* 40 CFR 63.11226 (defining "affirmative defense" to mean, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding).) We also have added other regulatory provisions to specify the elements that are necessary to establish this affirmative defense; the source must prove by a preponderance of the evidence that it has met all of the elements set forth in 63.11226. (*See* 40 CFR 22.24.) The criteria ensure that the affirmative defense is available only where the event that causes an exceedance of the emission limit meets the narrow definition of malfunction in 40 CFR 63.2 (sudden, infrequent, not reasonable preventable and not caused by poor maintenance and or careless operation). For example, to successfully assert the affirmative defense, the source must prove by a preponderance of the evidence that excess emissions "[w]ere caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner * * *." The criteria also are designed to ensure that steps are taken to correct the malfunction, to minimize emissions in accordance with 40 CFR 63.11205(a), and to prevent future malfunctions. For example, the source must prove by a preponderance of the evidence that "[r]epairs were made as expeditiously as possible when the applicable emission limitations were being exceeded * * *" and that "[a]ll possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health * * *." In any judicial or administrative proceeding, the Administrator may challenge the assertion of the affirmative defense and, if the respondent has not met its burden of proving all of the requirements in the affirmative defense, appropriate penalties may be assessed in accordance with CAA section 113 of the CAA (*see* also 40 CFR 22.77).

F. What are the initial compliance requirements?

For new and existing area source boilers with applicable emission limits, you must conduct initial performance tests to determine compliance with the PM, mercury, and CO emission limits. The performance tests to demonstrate compliance with the mercury emission limit can be either a stack test, which also requires a fuel analysis, or only a fuel analysis.

As part of the initial compliance demonstration, you must monitor specified operating parameters during the initial performance tests that demonstrate compliance with the PM, mercury, and CO emission limits for area source boilers. The test average establishes your site-specific operating levels.

For owners or operators of existing and new coal-fired area source boilers having a heat input capacity of less than 10 MMBtu/h and all existing and new biomass-fired and oil-fired area source boilers, you must submit to the delegated authority or EPA, as appropriate, documentation that a tune-up was conducted.

For owners or operators of existing area source facilities having a boiler with a heat input capacity of 10 MMBtu/h or greater and subject to this rule, you must submit to the delegated authority or EPA, as appropriate, documentation that the energy assessment was performed and the cost-effective energy conservation measures identified.

G. What are the continuous compliance requirements?

If you demonstrate initial compliance with the emission limits by performance (stack) tests, then you must conduct stack tests every 3 years. Furthermore, to demonstrate continuous compliance with the PM, CO, and mercury emission limits, you must monitor and comply with the applicable site-specific operating limits.

For area source boilers that must comply with the PM and mercury emission limits, you must continuously monitor opacity and maintain the opacity at or below 10 percent (daily block average) or:

1. If the boiler is controlled with a fabric filter, the fabric filter may be continuously operated such that the alarm on the bag leak detection system does not sound more than 5 percent of the operating time during any 6-month period.

2. If the boiler is controlled with an electrostatic precipitator (ESP), you must maintain the minimum voltage and secondary amperage (or total power input) of the ESP at or above the minimum operating limits established during the performance test.

3. If the boiler is controlled with a wet scrubber, you must monitor pressure drop and liquid flow rate of the scrubber and maintain the daily block averages at or above the minimum operating limits established during the performance test.

4. For boilers with sorbent or carbon injection systems which must comply with an applicable mercury emission limit, you must maintain the daily block averages at or above the minimum sorbent flow rate, as calculated according to 40 CFR 63.11221(a)(5).

If you elected to demonstrate initial compliance with the mercury emission limit by fuel analysis, as determined according to 40 CFR 63.11211(b), you must conduct a monthly fuel analysis and maintain the annual average at or below the limit indicated in Table 1 of this preamble.

For boilers that demonstrate compliance with the PM and mercury emission limits by performance (stack) tests, you must maintain monthly fuel records that demonstrate that you burned no new fuel type or new mixture (monthly average) as set during the performance test. If you plan to burn a new fuel type or new mixture that is different from what was burned during the initial performance test, then you must conduct a new performance test to demonstrate continuous compliance with the PM emission limit and mercury emission limit.

For boilers that must comply with the CO emission limits, you must continually monitor oxygen and maintain an oxygen concentration level, on a 30-day rolling average basis, at no less than 90 percent of the average oxygen concentration measured during the most recent performance test.

Biomass and oil-fired boilers must meet the management practice standards defined in Table 2 to 40 CFR part 63, subpart JJJJJJ.

H. What are the notification, recordkeeping and reporting requirements?

All new and existing sources will be required to comply with some requirements of the General Provisions (40 CFR part 63, subpart A), which are identified in Table 6 to subpart JJJJJJ. The General Provisions include specific requirements for notifications, recordkeeping, and reporting. If performance tests are required under subpart JJJJJJ, then the notification and reporting requirements for performance tests in the General Provisions also apply.

Each owner or operator is required to submit a notification of compliance status report, as required by 40 CFR 63.9(h) of the General Provisions. Subpart JJJJJJ rule requires the owner or operator to include in the notification of compliance status report certifications of compliance with rule requirements.

If your unit is subject to an emission limit, then you must prepare, by March 1 of each year, an annual compliance certification report for the previous calendar year certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart.

This rule requires records to demonstrate compliance with each emission limit, work practice standard, and management practice. These recordkeeping requirements are specified directly in the General Provisions to 40 CFR part 63.

Records for applicable management practices must be maintained. Specifically, the owner or operator must keep records of the dates and the results of each boiler tune-up.

Records are required for either continuously monitored parameter data for a control device, if a device is used to control the emissions, or continuous opacity monitoring system (COMS) data.

Each owner and operator is required to keep the following records:

(1) All reports and notifications submitted to comply with this final rule;

(2) Continuous monitoring data as required in this final rule;

(3) Each instance in which you did not meet each emission limit, work/management practice, and operating limit (*i.e.*, deviations from this final rule);

(4) Monthly fuel use by each boiler including a description of the type(s) of fuel(s) burned, amount of each fuel type burned, and units of measure;

(5) A copy of the results of all performance tests, energy assessments, opacity observations, performance evaluations, or other compliance demonstrations conducted to demonstrate initial or continuous compliance with this final rule; and

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

Records must be retained for at least 5 years. In addition, monitoring plans, operating and maintenance plans, and other plans must be updated as necessary and kept for as long as they are still current.

I. Submission of Emissions Test Results to EPA

Compliance test data are necessary for many purposes including compliance determinations, development of emission factors, and determining annual emission rates. EPA has found it burdensome and time consuming to collect emission test data because of varied locations for data storage and varied data storage methods.

One improvement that has occurred in recent years is the availability of stack test reports in electronic format as a replacement for bulky paper copies.

In this action, we are taking a step to improve data accessibility for stack tests (and in the future continuous monitoring data). Boiler area sources are required to submit to WebFIRE (an EPA electronic data base) an electronic copy of stack test reports as well as process data. Data entry requires only access to the Internet and is expected to be completed by the stack testing company as part of the work that it is contracted to perform.

Please note that the requirement to submit source test data electronically to EPA does not require any additional performance testing. In addition, when a facility submits performance test data to WebFIRE, there are no additional requirements for data compilation; instead, we believe industry will greatly benefit from improved emissions factors, fewer information requests, and better regulation development as discussed below. Because the information that is being reported is already required in the existing test methods and is necessary to evaluate the conformance to the test methods, facilities are already collecting and compiling these data. The Electronic Reporting Tool (ERT) was developed with input from stack testing companies, who already collect and compile performance test data electronically. One major advantage of submitting source test data through ERT is that it provides a standardized method to compile and store all the documentation required by subpart JJJJJJ. Another important benefit of submitting these data to EPA at the time the source test is conducted is that these data should reduce the effort involved in data collection activities in the future for these source categories. This results in a reduced burden on both affected facilities (in terms of reduced manpower to respond to data collection requests) and EPA (in terms of preparing and distributing data collection requests). Finally, another benefit of submitting these data to WebFIRE electronically is that these data will greatly improve the overall quality of the existing and new emissions factors by supplementing the pool of emissions test data upon which emissions factors are based and by ensuring that data are more representative of current industry operational procedures. A common complaint we hear from industry and regulators is that emissions factors are out-dated or not representative of a particular source category. Receiving recent performance test results would ensure that emissions factors are updated and more accurate. In summary, receiving these test data already collected for other purposes and using them in the emissions factors development program will save

industry, state/local/tribal agencies, and EPA time and money.

As mentioned earlier, the electronic data-base that will be used is EPA's WebFIRE, which is a Web site accessible through EPA's TTN (technology transfer network). The WebFIRE Web site was constructed to store emissions test data for use in developing emission factors. A description of the WebFIRE data-base can be found at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main.* The ERT will be able to transmit the electronic report through EPA's Central Data Exchange (CDX) network for storage in the WebFIRE data base. Although ERT is not the only electronic interface that can be used to submit source test data to the CDX for entry into WebFIRE, it makes submittal of data very straightforward and easy. A description of the ERT can be found at *http://www.epa.gov/ttn/chief/ert/ert_tool.html.*

The ERT can be used to document the conduct of stack tests for various pollutants including PM, mercury, dioxin/furan, and HCl. Presently, the ERT does not accept opacity data or CEMS data.

IV. Summary of Significant Changes Following Proposal

A. Changes to Subcategories

We have redefined the coal, biomass and oil subcategories for area source boilers to clarify the fuel-type inputs that would define each subcategory. The proposed rule defined the biomass subcategory to include any boiler that burns any amount of biomass, either alone or in combination with a liquid or gaseous fuel. This definition excluded boilers that burned biomass with coal; boilers burning greater than 10 percent coal on an annual fuel heat input basis were defined under the coal-fired subcategory. This final rule defines the biomass subcategory to include any boiler that burns at least 15 percent of biomass on an annual heat input basis.

Similarly, the proposed rule defined the oil subcategory to include any boiler that burns any liquid fuel either alone or in combination with gaseous fuels, and excluded boilers that burned solid fuels. We have revised this final rule to define the oil subcategory to include any boiler that burns any liquid fuel and is not in either the biomass or coal subcategory.

The coal subcategory in this final rule has been revised to include any boiler combusting any solid fossil fuels and no more than 15 percent biomass. This final rule defines solid fossil fuels to include, but not limited to, coal, petroleum coke, and tire derived fuel (TDF).

B. Change From MACT to GACT for Biomass and Oil Subcategories

The proposed rule set MACT-based emission limits for CO (as a surrogate pollutant for the individual urban organic HAP) from new and existing biomass-fired and oil-fired boilers. For POM from area source boilers classified as biomass-fired or oil-fired, as well as with respect to other urban HAP besides POM, we have revised this final rule standards to reflect GACT for these two area source subcategories (*see* Section V.D of this preamble). We are implementing management practice standards, as allowed by CAA section 112(d)(5), for control of POM from new and existing area source boilers in the biomass and oil subcategories. The management practice standard requires the implementation of a tune-up program.

C. MACT Floor UPL Methodology/Emission Limits

At proposal, we used a 99 percent UPL calculation to determine variability. In this final rule, we have determined that 99 percent UPL is appropriate for fuel based HAP and a 99.9 percent UPL is appropriate for combustion dependent HAP (i.e., CO). We have modified our assumptions when results of the skewness and kurtosis tests result in a tie between normal and log-normal calculations, or when there is not enough data to complete the skewness and kurtosis tests, to choose the log-normal results. We have also revised the UPL calculation to convert log-normally distributed data to an arithmetic mean instead of a geometric mean. Further, for fuel based HAP (*i.e.,* mercury), we have implemented an additional fuel variability factor in the emission limits.

D. Clarification of Energy Assessment Requirements

The proposed rule required owners and operators of existing area source boilers with a heat input capacity of 10 MMBtu/h and greater to have an energy assessment performed by a qualified professional. The proposed rule defined an energy assessment as an "in-depth assessment of a facility to identify immediate and long-term opportunities to save energy, focusing on the steam and process heating systems which involves a thorough examination of potential savings from energy efficiency improvements, waste minimization and pollution prevention, and productivity improvement." The requirements for the energy assessment, defined in Table 3 of the proposed rule, included visually inspecting the boiler system, establishing operating characteristics and energy system specifications, identifying the boiler's major energy consuming systems, listing major energy conservation measures, and a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, and the benefits associated with such.

This final rule requires an energy assessment for all existing boilers with a heat input capacity of 10 MMBtu/h or greater, and clarifies the definition of energy assessment with respect to the requirements of Table 3 of this final rule. The revised definition provides a maximum duration for performing the energy assessment and defines the evaluation requirements for each boiler system and energy use system. These requirements are based on the total annual heat input of the affected boilers.

This final rule requires an energy assessment for facilities with affected boilers using less than 0.3 trillion Btu per year heat input to be one day in length maximum. The boiler system and energy use system accounting for at least 50 percent of the energy output from the boilers must be evaluated to identify energy savings opportunities within the limit of performing a one-day energy assessment. An energy assessment for a facility with affected boilers using 0.3 to 1 TBtu/year must be three days in length maximum. From these boilers, the boiler system and any energy use system accounting for at least 33 percent of the energy output will be evaluated, within the limit of performing a three day energy assessment. For facilities with affected boilers using greater than 1 TBtu/year heat input, the energy assessment must comprise the boiler system and any energy use system accounting for at least 20 percent of the energy output to identify energy savings opportunities.

We have also added a definition for "energy use systems" to clarify the components, in addition to the boiler system, which must be considered during the energy assessment.

E. Revised Subcategory Limits

The proposed rule set emission limits for PM (as a surrogate for the individual urban metal HAP) for all new area source boilers and CO (as a surrogate pollutant for the individual urban organic HAP) for all new area source boilers and for existing area source boilers with a heat input capacity of 10 MMBtu/h or greater. The proposed rule also set emission limits for mercury from new and existing coal-fired boilers.

In this final rule, the emission limits for mercury and CO have been revised for existing coal-fired boilers with a heat input capacity greater than 10 MMBtu/h. The MACT emission limits for the coal subcategory have been revised based on the revised MACT floor approach (see Section V of this preamble). Existing boilers in the biomass and oil subcategories are not required to meet emission limits for CO in this final rule; these units must meet the management practice standards of implementing a boiler tune-up program.

In this final rule, the PM emission limits for new area source boilers have been revised based on the size category. For new boilers in the coal, biomass, and oil subcategories with a heat input capacity less than 10 MMBtu/h, GACT is a management practice of a tune-up. For new boilers between 10 and 30 MMBtu/h heat input, the PM limit has been revised to reflect the performance of GACT, which is a multiclone. The emission limits for mercury and CO have been revised for new coal-fired boilers with a heat input capacity greater than 10 MMBtu/h. New boilers in the biomass and oil subcategories are not required to meet emission limits for CO; these units must meet the management practice standards of a tune-up.

Table 2 of this preamble summarizes the revised emission limits for each pollutant for each subcategory.

TABLE 2—REVISED EMISSION LIMITS FOR SUBPART JJJJJJ

Subcategory	Heat input (MMBtu/hr)	Pollutant	Proposed emission limit	Final emission limit
New coal-fired boiler	≥30	Particulate Matter	0.03 lb per MMBtu of heat input	0.03 lb per MMBtu of heat input
		Mercury	0.000003 lb per MMBtu of heat input.	0.0000048 lb per MMBtu of heat input
		Carbon Monoxide	310 ppm by volume on a dry basis corrected to 7 percent oxygen	400 ppm by volume on a dry basis corrected to 3 percent oxygen
	≥10 and <30	Particulate Matter	0.03 lb per MMBtu of heat input	0.42 lb per MMBtu of heat input
		Mercury	0.000003 lb per MMBtu of heat input.	0.0000048 lb per MMBtu of heat input
		Carbon Monoxide	310 ppm by volume on a dry basis corrected to 7 percent oxygen	400 ppm by volume on a dry basis corrected to 3 percent oxygen
New biomass-fired boiler	≥30	Particulate Matter	0.03 lb per MMBtu of heat input	0.03 lb per MMBtu of heat input
		Carbon Monoxide	100 ppm by volume on a dry basis corrected to 7 percent oxygen.	Management Practice Standards (see Table 2 to subpart JJJJJJ)
	≥10 and <30	Particulate Matter	0.03 lb per MMBtu of heat input	0.07 lb per MMBtu of heat input
		Carbon Monoxide	100 ppm by volume on a dry basis corrected to 7 percent oxygen.	Management Practice Standards (see Table 2 to subpart JJJJJJ)
New oil-fired boiler	≥30	Particulate Matter	0.03 lb per MMBtu of heat input	0.03 lb per MMBtu of heat input
		Carbon Monoxide	1 ppm by volume on a dry basis corrected to 3 percent oxygen.	Management Practice Standards (see Table 2 to subpart JJJJJJ)
	≥10 and <30	Particulate Matter	0.03 lb per MMBtu of heat input	0.03 lb per MMBtu of heat input
		Carbon Monoxide	1 ppm by volume on a dry basis corrected to 3 percent oxygen.	Management Practice Standards (see Table 2 to subpart JJJJJJ)
Existing coal-Fired boiler	≥10	Mercury	0.000003 lb per MMBtu of heat input.	0.0000048 lb per MMBtu of heat input
		Carbon Monoxide	310 ppm by volume on a dry basis corrected to 7 percent oxygen	400 ppm by volume on a dry basis corrected to 3 percent oxygen
Existing biomass-fired boiler.		Carbon Monoxide	160 ppm by volume on a dry basis corrected to 7 percent oxygen	Management Practice Standards (see Table 2 to subpart JJJJJJ)
Existing coal-fired boiler		Carbon Monoxide	2 ppm by volume on a dry basis corrected to 3 percent oxygen	Management Practice Standards (see Table 2 to subpart JJJJJJ)

F. Demonstrating Compliance

We have revised the compliance dates for existing affected sources according to the applicable provisions for each affected source (e.g., work practice standards, emission limits, management practice standards, and/or an energy assessment). Under the proposed rule, owners and operators of existing sources would have had to comply with this final rule within 3 years following March 21, 2011. This final rule requires that if you own or operate an existing source subject to a work practice or management practice standard of a tune-up, you must comply with this final rule no later than March 21, 2012. If you own or operate an existing source subject to an emission limit or an energy assessment requirement, you must comply with this final rule no later than March 21, 2014. Under the proposed rule, the owner or operator of a new source would have been required to comply on the date of publication of the final rule or upon startup of the facility, which ever was later. Because this rule is subject to the Congressional Review Act, the owner or operator of a new source is required to comply on May 20, 2011 or upon startup of the facility, whichever is later.

Additionally, we have clarified the compliance requirements for commercial and industrial solid waste incineration units subject to 40 CFR part 60, subpart CCCC or subpart DDDD that cease combusting solid waste and become subject to Subpart JJJJJJ. Owners and operators of commercial and industrial solid waste incineration units must be in compliance with this subpart on the effective date of the waste to fuel switch (at least 12 months from the date that the owner or operator ceased

combusting solid waste), if the effective date is after the applicable compliance dates discussed above.

We have also revised the proposed continuous compliance requirements to be consistent with changes to the emission limits in this final rule, and are no longer requiring CO CEMS for biomass, oil, and coal-fired units. For new and existing coal units with a heat input capacity greater than 10 MMBtu/h, we are requiring stack testing every 3 years to demonstrate compliance with the CO emission limits. Because boilers in the biomass and oil subcategories are only required to meet the management practice standards in Table 2 of 40 CFR part 63, subpart JJJJJJ, no testing for CO emissions is required for these units.

G. Affirmative Defense

We have added provisions to this final rule to include an affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions. Consistent with *Sierra Club* v. *EPA*, EPA has established standards in this rule that apply at all times. However, in response to an action to enforce the standards set forth in 40 CFR 63.11201, you may assert an affirmative defense for exceedances of such standards that are caused by malfunction, as defined at 40 CFR 63.2. (*See* 40 CFR 63.11226 (defining "affirmative defense" to mean, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding). The included provisions specify the elements that are necessary to establish an affirmative defense for periods of malfunction, including evidence and notification requirements that must be prepared by the source.

H. Technical/Editorial Corrections

In this final action, we are making a number of technical corrections and clarifications to subpart JJJJJJ. These changes improve the clarity and procedures for implementing the emission limitations to affected sources. We are also clarifying several definitions to help affected sources determine their applicability. We have modified some of the regulatory language that we proposed based on public comments.

We made several changes to the initial compliance demonstration requirements. We revised 40 CFR 63.11211(a) to clarify that sources using a second fuel only for start up, shutdown, and/or transient flame stability are still considered to be sources using a single fuel. We deleted 40 CFR 63.11210(b) to remove the requirement that boilers with a heat input capacity above 100 MMBtu/h are required to demonstrate compliance by conducting a performance evaluation of their CO CEMS.

We made a change to the monitoring requirements in 40 CFR 63.11225 (40 CFR 63.11224 in the proposed rule). We deleted paragraph (e) to remove the requirement that boilers having a heat input capacity of 100 MMBtu/h and subject to a CO limit install a CO CEMS.

In response to comments asking for clarification, we have added definitions to 40 CFR 63.11237 for "Annual heat input basis," "Energy use system," "Hot water heater," "Minimum scrubber pressure drop," "Minimum voltage or amperage," "Qualified energy assessor," and "Solid fossil fuel." We have also revised several definitions in that section based on public comments. For example, we revised the definition of "Boiler" to describe what is meant by the term "controlled flame combustion" as used in that definition.

Several of the definitions in 40 CFR 64.11237 were revised to clarify the types of equipment to which different standards apply. For example, the definition of "Waste heat boiler" was revised to remove the criteria that 50 percent of total rated heat input capacity had to be from supplemental burners. We also revised the definition of "Natural gas" to include gas derived from naturally occurring mixtures found in geological formations as long as the principal constituent is methane, consistent with the definition provided in 40 CFR part 60 subpart Db. A definition of propane was also incorporated into the definition of natural gas.

V. Significant Area Source Public Comments and Rationale for Changes to Proposed Rule

This section contains a brief summary of major comments and responses. EPA received many comments on this subpart covering numerous topics. EPA's responses to all comments, including those below, can be found in the comment response document for Area Source Industrial, Commercial, and Institutional Boilers in the docket.

A. Legal and Applicability Issues

Section 112(c)(6) of the CAA

Comment: Some commenters stated that EPA misinterpreted the statute in using MACT instead of GACT for area sources. These commenters argued that the statute allows for setting a standard under CAA section 112(d)(2) that can be satisfied using the alternative GACT procedure specified in CAA section 112(d)(5) to meet the 112(c)(6) requirements.

Response: We disagree with the comment that the CAA gives EPA discretion to promulgate GACT standards pursuant to section 112(d)(5) for area source categories required to be regulated under section 112(c)(6). Section 112(c)(6) of the CAA explicitly requires that "sources accounting for not less than 90 per centum of the aggregate emissions of each [pollutant specified in this provision] are subject to standards under subsection 112(d)(2) or (d)(4) * * *." (Emphasis added). The plain language of section 112(c)(6) requires that the Agency set standards under section 112(d)(2) or (d)(4). There is no ambiguity in this language and thus the legislative history cited by the commenter is irrelevant. As such, the Agency is appropriately setting standards for the sources at issue pursuant to section 112(d)(2).

The commenter argues that section 112(d)(5) trumps the very specific language in section 112(c)(6). We disagree. Congress unambiguously required the Agency to set standards for these persistent, bioaccumulative HAP under section 112(d)(2) or (d)(4). Had Congress wanted us to permit EPA to issue GACT standards for the 112(c)(6) HAP, it would have said that EPA could issue standards under section 112(d), as it did in section 112(k)(3)(B) of the Act, noting that area sources shall be subject to standards issued pursuant to "subsection (d) of this section." Congress could not have been more precise in section 112(c)(6), and we reject the commenter's interpretation.

EPA has consistently maintained that standards under section 112(d)(2) or (d)(4) are required for the pollutants listed in section 112(c)(6). In this case, we are setting a section 112(d)(2) MACT standard for mercury and CO (as a surrogate for POM) for coal-fired area source boilers, which are the 112(c)(6) pollutants that form the basis for the listing of the source category at issue here.

Comment: One commenter argued that EPA did not provide justification for its decision that mercury and POM must be regulated pursuant to CAA section 112(c)(6) at area source boilers to satisfy the requirements that 90 percent of nationwide emissions of these pollutants must be reduced. The commenter further stated that the proposed rule and supporting documentation provide no rational basis or adequate factual justification for the need to regulate area source POM or

mercury emissions to satisfy CAA section 112(c)(6). Specifically, the commenter stated that neither the proposed rule nor the MACT floor memo provide data that support the proposed determination that 90.3 percent of the 1990 emissions inventory for mercury is already subject to regulation. In contrast, another commenter said that, once a category is listed under CAA section 112(c)(6), the only procedure available to EPA for refraining from promulgating a MACT-based standard for the category is to remove the category from the CAA section 112(c) list through the use of CAA section 112(c)(9), regardless of whether the category is needed to meet the 90 percent requirement in CAA section 112(c)(6).

Response: The statute does not limit EPA's discretion as to how it fulfills its obligations under CAA section 112(c)(6). To the extent that the commenters seek to challenge whether EPA has selected appropriate categories to meet its obligations under CAA section 112(c)(6) or whether EPA has met the requirement in CAA section 112(c)(6) to regulate categories emitting at least 90 percent of the specified pollutants (in this case, mercury and POM), such challenges should not be reviewed in the context of a review of an individual NESHAP. Rather, if review is appropriate, it should be in the context of an EPA finding that it has fulfilled its obligations under CAA section 112(c)(6), and an accounting by the agency of how it reached the 90 percent threshold for each pollutant. Nevertheless, the docket for this rulemaking contains a spreadsheet that demonstrates our belief that we have met the 90 percent requirement for POM and for mercury with this final rule.

While we are promulgating GACT-based provisions at this time for mercury and POM from biomass-fired and oil-fired area source boilers, note that we have not removed or "delisted" oil-fired and biomass-fired area source boilers by this action. We are not promulgating MACT-based regulations at this time because they are unnecessary to meet the requirements of CAA section 112(c)(6).

Comment: Comments received suggested EOM was not appropriate for representing POM emissions. The commenters noted a drawback to using EOM as a surrogate for POM is the limited amount of data available to quantify emissions and the few EOM inventories or emission factors in existence. Commenters also stated that EOM includes other extractible organics in addition to the PAHs. The commenters suggest that the reasonable assumption is that any observed health effects come from the PAH fraction and since EOM includes compounds other than PAH, it should not be used as a surrogate for POM.

Response: This issue primarily affects whether biomass-fired and oil-fired boilers are needed to meet the CAA section 112(c)(6) requirements. EPA has considered commenter input and revised the final rule based on our re-examination of our section 112(c)(6) baseline inventory for POM. As we noted in the proposed rule, we reexamine the inventory associated with the original listing as we learn more about the source category in the rule development process (75 FR 31904). Based on a re-examination of the emission inventory in light of comments, we have determined that we only need to address the coal-fired portion of the area source segments of these categories under CAA section 112(c)(6) in order to meet the 90 percent threshold requirement of that provision for both mercury and POM.

As discussed in the preamble to the June 2010 proposed rule (75 FR 31896), we have determined that we must regulate mercury and POM from coal-fired area source boilers in order to meet the requirements in CAA section 112(c)(6), and we are establishing MACT-based limits for mercury and POM (using CO as a surrogate) for this subcategory. We are implementing work practice standards, as allowed by CAA section 112(h), for control of mercury and POM from new and existing area source boilers in the coal subcategory with a designed heat input capacity less than 10 MMBtu/h.

In the CAA section 112(c)(6) source listing, we used three indicators (7–PAH, 16–PAH, and extractable organic matter (EOM)) to represent POM emissions and compiled three separate baseline inventories for POM, one for each indicators. In light of the comment described above regarding EOM, we re-examined our three section 112(c)(6) baseline inventories for POM. For the reason stated below, we have decided to use only the baseline inventory for 16–PAH in determining the 90 percent threshold under section 112(c)(6).

We agree with the commenters who have identified data gaps in our knowledge of what source categories are emitting EOM. While we have data on 16–PAH emissions for 94 categories, we only have available data on EOM emissions for 18 source categories. The lack of available data on EOM emission creates a distorted picture of the relative contributions of source categories for which there are available EOM data. The lack of source categories making up the total EOM inventory makes the relative contribution of the few categories that do have data unrealistically inflated.[2] We therefore cannot say with confidence that by using the baseline inventory for EOM we are capturing 90 percent of the baseline POM emissions, as required by section 112(c)(6). Similarly, we have data on 7–PAH for 32 categories, considerably fewer than the 94 categories for which we have 16–PAH data. Because the 16–PAH inventory allows for the most accurate representation of the universe of categories that emit POM, we have decided to use that baseline inventory for determining the 90 percent threshold for POM under section 112(c)(6). Based on the baseline inventory for 16–PAH, regulating POM emissions from area source biomass and oil boilers are not needed to meet the CAA section 112(c)(6) obligations. Thus, POM emissions from area source boilers in the biomass and oil subcategories can be regulated under GACT, instead of MACT.

With respect to mercury and POM from area source boilers classified as biomass-fired or oil-fired, as well as with respect to other urban HAP besides POM, we have revised the final rule standards to reflect GACT for these two area source subcategories (*see* Section IV.B of this preamble). We are implementing management practice standards, as allowed by CAA section 112(d)(5), for control of POM from new and existing area source boilers in the biomass and oil subcategories. The management practice standard for new and existing area source boilers requires the implementation of a tune-up program.

As stated previously in the preamble to the June 2010 proposed rule, we determined that the control technologies currently used by facilities in the source category to reduce non-mercury metallic HAP and PM (multiclone, fabric filters, and ESP) are generally available and cost effective for new area source boilers. Additionally, these controls are commonly required by state and other federal regulations that apply to the area source boilers in the source category. Therefore, we are establishing numeric emission limits representing GACT for all new area source boilers with a heat

[2] When justifying its use in the 1998 inventory, we said that EPA would undertake an effort to develop a robust inventory for EOM sources to feed into the CAA section 112(c)(6) inventory. Had more data been gathered, perhaps EOM would have proved to be a more useful indicator of POM. However, the anticipated inventory was not developed.

input capacity greater than 10 MMBtu/h (using PM as a surrogate).

Emission Standards for HAP Other Than Mercury

Comment: One commenter stated that CAA section 112(c)(6) provides that EPA must "list categories and subcategories of sources assuring that sources accounting for not less than 90 percent of each [enumerated] pollutant are subject to standards under subsection (d)(2) or (d)(4) of this section." The commenter also stated that the DC Circuit has held repeatedly that when EPA sets standards for a category or subcategory of sources under section 112(d)(2), EPA has a statutory duty to set emission standards for each HAP that the sources in that category or subcategory emit. The commenter concluded that when EPA sets standards for area source boilers under section 112(d)(2), as section 112(c)(6) requires it to do, EPA must set section 112(d)(2) emission standards for all the HAP that area source boilers emit.

The commenter said that EPA appears to believe that because area source boilers are needed only to reach the section 112(c)(6) requirement of 90 percent for mercury and POM and not for the other pollutants enumerated in section 112(c)(6), EPA's only obligation under section 112(c)(6) is to set section 112(d)(2) standards for mercury and POM. The commenter said that section 112(c)(6) expressly requires EPA to issue section 112(d)(2) standards for the "sources" in the categories listed under section 112(c)(6), not some subset of the pollutants that those sources emit, and that section 112(d)(2) standards must include emission standards for each HAP that a source category emits. The commenter continued by stating that nothing in the CAA exempts EPA from this requirement. The commenter concluded that, had Congress wished to give EPA discretion to set standards for only some of the pollutants emitted by a category listed under section 112(c)(6), it would have done so expressly.

Response: EPA disagrees with the comment that, even though EPA lists a category under section 112(c)(6) due to the emissions of one or more HAP specified in that section, EPA must issue emission standards for all HAP (including HAP not listed in section 112(c)(6)) that sources in that category emit. The commenter cited in support the opinion by the United States Court of Appeals for the DC Circuit in *National Lime Ass'n* v. *EPA*, 233 F.3d 625, 633–634 (DC Cir. 2000)). The part of the *National Lime* opinion referenced in the comment dealt with EPA's failure to set emission standards for certain HAP emitted by major sources of cement manufacturing because the Agency found no sources using control technologies for those HAP. In rejecting EPA's argument, the court stated that EPA has "a statutory obligation to set emission standards for each listed HAP." *Id.* at 634. The Court noted the list of HAP in section 112(b) and stated that section 112(d)(1) requires that EPA "promulgate regulations establishing emission standards for each category or subcategory of *major sources* * * * of hazardous air pollutants listed for regulation * * *" *Id.* (Emphasis added). For the reasons stated below, we do not believe that today's final rule is controlled by or otherwise conflicts with the *National Lime* decision.

National Lime did not involve section 112(c)(6). That provision is ambiguous as to whether standards for listed source categories must address all HAP or only the section 112(c)(6) HAP for which the source category was listed. Section 112(c)(6) requires that "sources accounting for not less than 90 per centum of the aggregate emissions of each such [specific] pollutant are subject to standards under subsection (d)(2) or (d)(4)." This language can reasonably be read to mean standards for the section 112(c)(6) HAP or standards for all HAP emitted by the source. Under either reading, the source would be subject to a section 112(d)(2) or (d)(4) standard.

The commenter insists that once a section 112(d)(2) standard comes into play, all HAP must be controlled (per *National Lime*). But this result is not compelled by the pertinent provision, section 112(c)(6). That provision is obviously intended to ensure controls for specific persistent, bioaccumulative HAP, and this purpose is served by a reading which compels regulation under section 112(d)(2) only of the HAP for which a source category is listed under section 112(c)(6), rather than for all HAP.

The facts here support the reasonableness of EPA's approach. Area source boilers are included in source categories listed under section 112(c)(6) for regulation under section 112(d)(2) solely due to its mercury and POM emissions. There is special statutory sensitivity to regulation of area source categories in section 112. For example, an area source category may be listed for regulation under section 112 if EPA makes an adverse effects finding pursuant to Section 112(c)(3) or if EPA determines that the area source category is needed to meet its section 112(c)(3) obligations to regulate urban HAP or its section 112(c)(6) obligations to regulate certain persistent bioaccumulative HAP. Moreover, to the extent EPA lists an area source category pursuant to section 112(c)(3) (whether that finding is based on adverse effects to human health or the environment or a finding that the source is needed to meet the 90 percent requirement in section 112(c)(3)), the statute gives EPA discretion to set GACT standards for such sources (42 U.S.C. 7412(d)(5)).

EPA does not interpret section 112(c)(6) to create a means of automatically compelling regulation of all HAP emitted by area sources unrelated to the core object of section 112(c)(6), which is control of the specific persistent, bioaccumulative HAP, and thereby bypassing these otherwise applicable preconditions to setting section 112(d) standards for area sources. Nor does *National Lime* address the issue, since the case dealt exclusively with major sources (233 F. 3d at 633). Consequently, EPA disagrees with the comment that it is compelled to promulgate section 112(d)(2) MACT standards for all HAP emitted by area source boilers.

Beyond-the-Floor Option

We are promulgating the proposed standard requiring the performance of an energy assessment for existing area source facilities having an affected boiler with a designed heat input capacity of 10 MMBtu/h or greater. This final rule requires the performance of an energy assessment, by qualified personnel, on the boiler and its energy use systems to identify cost-effective energy conservation measures. As discussed in the June 2010 proposed rule, an energy assessment provides valuable information on improving energy efficiency. Owners and operators are encouraged, but not required, to use the results of the energy assessment to increase the energy-efficiency and cost-efficiency of their boiler system.

In the proposed rule, the energy assessment requirement was a beyond-the-floor option for the MACT-based mercury and CO emission standards because additional emission reductions would be realized as the results of these energy assessments, if implemented. In this final rule, the energy assessment requirement is both a beyond-the-floor control for the MACT-based standards for the coal subcategory and a GACT for the biomass and oil subcategory because energy assessments are generally available and have already been performed at numerous facilities.

The principal arguments against an energy assessment requirement are: (1) EPA lacks authority to impose requirements on portions of the source that are not designated as part of the

affected source, such as non-emitting energy using systems at a facility; (2) EPA has not quantified the reductions associated with the energy assessment requirement, therefore it cannot be "beyond the floor;" and (3) the bare requirement to perform an audit without being required to implement its findings is not a standard under CAA section 112(d).

With respect to the first argument, we have carefully limited the requirement to perform an energy assessment to specific portions of the source that directly affect emissions from the affected boiler, as indicated by the revised definition of an energy assessment in section 63.11237 of subpart JJJJJJ. The emissions that are being controlled come from the affected source. For coal-fired units, the process changes resulting from a change in an energy using system will reduce the volume of emissions at the affected source. For biomass-fired and oil-fired area sources, better management practices at energy using systems will reduce the emissions of HAP from the affected source by reducing fuel consumption and the HAP released through combustion of fuel. In either case, the requirement controls the emissions of the affected source.

With respect to the second argument, the energy assessment will generate emission reductions through the reduction in fuel use beyond those required by the floor. While the precise quantity of emission reductions will vary from source to source and cannot be precisely estimated, the requirement is clearly directionally sound and thus consistent with the requirement to examine beyond the floor controls. By definition, any emission reduction would be cost effective or else it would not be implemented.

Finally, with respect to the third argument, the requirement to perform the energy audit is, of course, a requirement that can be enforced and thus a standard. As noted, while we do not know the precise reductions that will occur at individual sources, the record indicates that energy assessments reduce fuel consumption and that parties will implement recommendations from an auditor that they believe are prudent.[3] Therefore, the requirement to perform an energy assessment can both be enforced and will result in emission reductions.

Section 112(h) of the CAA

Comment: Commenters stated that setting work practice standards in lieu of emission standards for area source boilers with a heat input capacity less than 10 MMBtu/h is unlawful and arbitrary. Commenters cited EPA's determination with respect to the technical and economic limitations on the enforcement of emission standards for boilers with heat input capacity less than 10 MMBtu/h, and stated that these limitations do not satisfy CAA section 112(h) conditions for setting work practice standards in lieu of emission standards. Some commenters argued that the technical limitations of measuring PM using Method 5, as discussed in the preamble to the proposed June 2010 rule, do not apply to mercury and CO. Other commenters remarked that the absence of sampling ports and stacks at area source boilers does not provide a basis for a technical or economic limitation, stating that sources are able to work around this issue. Multiple commenters said that the lack of measuring ports (which can affect retrofitting new boiler installations into existing buildings), other design requirements for efficient exhaust from smaller boilers, and the inapplicability of approved test methods would make measurement technically and economically impractical for both existing and new sources. Commenters specifically cited CAA section 112(h)(1) and (2), which allows the agency to prescribe work practice standards only if it is "not feasible to prescribe or enforce an emission standard * * * due to technological or economic limitations."

Response: EPA disagrees with commenters. As discussed in the preamble to the June 2010 proposed rule, CAA section 112(h) authorizes the Administrator to promulgate "a design, equipment, work practice, or operational standard, or combination thereof," consistent with the provisions of CAA sections 112(d) or (f), in those cases where, in the judgment of the Administrator, it is not feasible to prescribe or enforce an emission standard. CAA section 112(h)(2)(B) further defines the term "not feasible" to mean when "the application of measurement technology to a particular class of sources is not practicable due to technological and economic limitations." We have elected to implement work practice standards for coal-fired boilers with a heat input capacity of less than 10 MMBtu/h because we have determined that the standard reference methods for measuring emissions of mercury, CO (as a surrogate for POM), and PM (as a surrogate for urban non-mercury metals) are not applicable for sampling small diameter (less than 12 inches) stacks. Furthermore, through the comment process, we have learned that common, very small boilers (less than 5 MMBtu/h) typically exhaust through vents and not stacks, and that the installation of ports into small diameter vents for smaller boilers would likely interfere with the functionality of exhaust systems for new and existing boilers. Because many existing area source boilers with a capacity below 10 MMBtu/h generally have stacks with diameters less than 12 inches, and because many area source boilers do not currently have sampling ports or a platform for accessing the exhaust stack, we have determined that the testing and monitoring costs that area source boiler facilities would incur to demonstrate compliance with the proposed emission limits would present an excessive burden for smaller sources. Thus, we are establishing work practice standards to limit the emissions of mercury and CO (as a surrogate for POM) for existing and new coal-fired area source boilers having a heat input capacity of less than 10 MMBTU/h.

De minimis Levels

Comment: Several commenters stated that EPA should establish a *de minimis* heat input level (less than 1 MMBtu/h heat input capacity) below which area sources are not subject to regulation or only subject to work practice standards. These commenters referenced water heaters and small comfort heating units that are not used in industrial, commercial, or institutional processes but instead used to provide hot water for personal use or seasonal comfort heating. Other commenters noted that State rules that require work practice requirements for boilers all have a lower limit on applicability of typically 1 to 5 MMBtu/h; these commenters stated that EPA has provided no basis for applying work practice standards to boilers of this size.

Response: EPA must establish standards for each category or subcategory of major sources and area sources of HAP listed pursuant to CAA section 112(c). EPA may distinguish among classes, types, and size in establishing such standards but the standards established must be applicable to new and existing sources of HAP within the category. However, we agree with the commenters that the categories of boiler covered by this rule are industrial boilers, commercial

[3] Case studies and success stories highlighting energy savings achieved by companies that have participated in *Save Energy Now* energy assessments and used Industrial Technologies Program software tools to improve energy efficiency can be found at *http://www1.eere.energy.gov/industry/saveenergynow/case_studies.html* and at the Department of Energy's Energy Assessment Centers Database *http://iac.rutgers.edu/database.*

boilers, and institutional boilers. In the proposed rule, we did not list hot water heaters as exempted as we did in the proposed Boiler MACT for major sources. As stated in the preamble to the proposed Boiler MACT, hot water heaters meet the definition of a boiler but are more appropriately described as residential-type boilers, not industrial, commercial, or institutional boilers because their output is intended for personal use rather than for use in an industrial, commercial, or institutional process. The primary reason for exempting hot water heaters in the Boiler MACT was that hot water heaters are not part of the listed source category. Because hot water heaters generally use natural gas and gas-fired boilers were not part of the area source category, we did not include a similar exemption in the proposed rule. To be consistent with the Boiler MACT, we have included in this final rule a similar exemption and definition for hot water heaters.

B. CO Limits

Comment: Multiple commenters argued that EPA's determination of using CO as a surrogate for POM is inappropriate. Several of these commenters reiterated that there is no reliable correlation between CO and POM. Some commenters stated that CO is not an appropriate surrogate for POM or organic HAP at lower CO emission levels. For instance, one commenter stated that while there is a linear correlation between decreasing CO and decreasing HAP at higher levels, once CO values fall under 100 ppm, further reduction of CO does not provide any substantial correlating reduction of HAP. Other commenters stated that CO is an inadequate surrogate for POM because there is no POM invariably present in CO; likewise, commenters stated that because CO and POM have different mechanisms of formation and reduction, CO cannot be considered as a reliable surrogate.

Several commenters suggested total hydrocarbon (THC) as a better surrogate, stating that THC levels are often more stable and less reactive to load swings than CO. Commenters noted that THC has been used as a surrogate for organic HAP emissions in other regulatory efforts, including the hazardous waste incinerator MACT.

Response: EPA acknowledges commenters' concerns. Based on new data received during the public comment period, we have re-examined our analysis and revised the final standards for CO. As previously discussed, this final rule only establishes CO emission limits for coal-fired boilers pursuant to CAA section 112(c)(6). We are implementing management practice standards, as allowed by CAA section 112(d)(5), for control of CO from new and existing area source boilers in the biomass and oil subcategories. Additionally, for the coal subcategory, we have revised the final CO emission limits to ensure a more accurate correlation between POM and CO levels. EPA is aware of one European study [4] that finds the correlation between CO and POM (or organic HAP, in general) is weaker at lower CO concentrations (less than 100 ppmv) but we did not have the opportunity to examine the data relied on by the study and no data supporting this supposition were submitted as part of the public comments. We have revised the final standards (400 ppm) based on 99.9 percent UPL as discussed in Section IV.C of this preamble. EPA believes that CO is a reliable surrogate for POM at this emission level. EPA considered using THC as a surrogate for POM, however, we did not have available THC data for area sources.

Comment: Several commenters expressed concern with respect to the proposed CO limits. Some commenters stated that the proposed CO limits are unachievable for some units, including liquid-fired boilers. Commenters further stated that meeting the CO limits would be more burdensome for area sources than major sources. Specifically, many commenters argued that the CO limits are unfeasible from a measurement, operability, and cost standpoint, particularly when considered simultaneously with other limits (NO_x, VOC). Some commenters expressed concern that prioritizing CO reduction may promote boiler inefficiency and result in higher emissions of NO_x.

Other commenters suggested that the CO emission limits should be determined using long-term CEMS data to account for natural variability in CO emissions. Commenters also offered alternatives for control of POM. One commenter suggested that EPA consider cleaner fuels or end of stack technologies for control, such as fabric filters and scrubbers that capture POM and POM-precursors.

Response: As discussed above, this final rule establishes MACT-based emission limits for CO only for new and existing coal-fired boilers. In this final rule, area source boilers in the biomass and oil-fired subcategories are not required to meet CO emission limits; these boilers are instead required to meet the management practice standard which consists of a tune-up. The MACT-based CO emission limits are still required for coal-fired area source boilers in order to meet our obligation under CAA section 112(c)(6). Based on the available CO data and the revised UPL calculation methodology, the final CO emission limits for coal-fired area source boilers are higher than the proposed limits which should provide more assurance that the limit can be achieved at all times. EPA notes that the available dataset did not include sufficient long-term CEMS data for area sources to be used to set a limit. Therefore, we have established the CO standards based on the data provided using the revised UPL methodology to account for variability over the operating cycle of typical industrial, commercial, and institutional boilers. We also considered other appropriate control options for sources in each subcategory, including switching to clean fuels and end of stack technologies. We considered whether fuel switching could be technically achieved by boilers in the subcategory considering the existing design of boilers and the availability of various types of fuel. We determined that fuel switching was not an appropriate control technology based on the overall effect of fuel switching on HAP emissions and the technical and design considerations discussed previously in the preamble to the proposed June 2010 rule (75 FR 31896). This determination is discussed in the memorandum "Development of Fuel Switching Costs and Emission Reductions for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants—Area Source" located in the docket. Additionally, EPA did not identify add-on control technologies available for control of CO in use at area source boilers.

C. MACT Floor Analysis

Pollutant-by-Pollutant Approach

Comment: Several commenters argued that the pollutant-by-pollutant approach used by EPA is not appropriate. Commenters rejected the pollutant-by-pollutant approach on the basis that both PM and CO emission limits are not achievable even for the best performing sources. These commenters argued that because the proposed area source MACT standards rely on a different set of best performing sources for each separate HAP standard, no single source is in the

[4] European Wood-Heating Technology Survey: An Overview of Combustion Principles and the Energy and Emissions Performance Characteristics of Commercially Available Systems in Austria, Germany, Denmark, Norway, and Sweden; Final Report; Prepared for the New York State Energy Research and Development Authority; NYSERDA Report 10–01; April 2010.

population of units for both the PM and CO emission limits, and therefore, the approach does not reflect the performance of the best performing boilers. Rather, commenters asserted that the proposed limits were unrealistic, unnecessarily stringent, and unachievable. Commenters further stated that the provisions of CAA sections 112(d)(1), (2), and (3) of the CAA require that standards must be based on actual sources, and cannot be the product of pollutant-by-pollutant "cherry-picking." Commenters stated that EPA does not have the authority to "distinguish" units and sources by individual pollutant. Other commenters stated that EPA must set limits for each HAP that the sources in the subcategory emit, and not solely mercury or POM. These commenters stated that to ignore the emitted HAP violates the CAA and the court order.

Response: EPA is mindful that MACT floors must reflect achieved performance. EPA is also mindful that that costs cannot be considered by EPA in ascertaining the level of the MACT floor. *See,* e.g., *Brick MACT,* 479 F. 3d at 880–81, 882–83; *NRDC* v. *EPA,* 489 F. 3d 1364, 1376 (DC Cir. 2007) ("Plywood MACT"); *see* also *Cement Kiln Recycling Coalition* v. *EPA,* 255 F. 3d 855, 861–62 (DC Cir. 2001) ("achievability" requirement of CAA section 112(d)(2) cannot override the requirement that floors be calculated on the basis of what best performers actually achieved).

EPA has carefully developed data for each standard, assessing both technological controls and HAP inputs in doing so. The MACT floor variability methodology is discussed in a later response.

Among all boilers at area sources, only new and existing coal-fired ones will need to meet MACT-based limits. Nevertheless, it is true that at least some coal-fired area source boilers will need to install controls to meet these standards, and that these controls have significant costs. This is part of the expected MACT process where, by definition, the averaged performance of the very best performers sets the minimum level of the standard. The Agency believes that it has followed the statute and applicable case law in developing its floor methodology. Although industry commenters maintain these sources cannot meet the standards, which are predicated on their own performance without adding controls, this contention lacks a basis in the record. For mercury, 6 of the 7 boilers for which EPA has emissions data are meeting the MACT floor standards for mercury. For CO, 13 of the 16 boilers in the MACT pool meet the promulgated standard. In those instances where commenters provided actual data on these plants' performance, EPA took the information into account in developing the final standards. Indeed, EPA adjusted all of the standards based on actual data presented. We have emissions data on a limited number of area source units. The available information does indicate that at least one unit meets both the final PM and CO emission limits.

Dataset for the MACT Floor Analysis

Comment: Commenters stated numerous objections to the dataset used for the MACT floor analysis. Some commenters stated that it is inappropriate to apply limits from data submitted as part of the major source industrial boiler MACT ICR to area sources. Commenters objected to EPA's assertion that boilers at area sources are similar in size and operation to major source boilers; one commenter noted that EPA did not use test data from area source facilities to set major source floors.

Other commenters stated that the emission limits are significantly flawed because they are based on inadequate data and not representative of the units in the source category. These commenters stated that the data collected is insufficient because it represents the performance of less than 1 percent of almost 183,000 existing area source boilers, particularly given that EPA based the analysis on the top 12 percent of units for which data were available. Commenters further stated that there was insufficient data available to establish appropriate boiler-type subcategories.

Some commenters expressed that EPA must include emissions data collected by state and local permitting authorities in establishing the MACT floor; these commenters stated that these data are more objective than the newer industry testing and are also necessary to fill in "gaps" in the existing data. Other commenters requested that certain data should be excluded from the MACT floor analysis. For instance, some commenters stated that non-detect data should be excluded or that the analysis should be adjusted to account for the capabilities of the test methods. These commenters stated that the non-detect data results in an unreasonably low MACT floor; some commenters stated that the proposed limits are in some cases below the detection capability of the required test method. Commenters also stated that EPA has not justified using three times the detection level in its analysis. These commenters stated that this method biases the results towards higher HAP emissions, results in a hypothetical standard that is unrealistic and not determined as required by statute.

Response: EPA acknowledges commenters' concerns. As mentioned elsewhere in this preamble, EPA is required to establish MACT floor levels using existing emissions information. For all data sets, the final emission limits are based on the available data and EPA's assessment of variability. Since proposal we have received updated data on certain boilers and used that data to revise our emission estimates from the best performing sources. We re-evaluated the information available for the area source category and revised the proposed MACT-based CO emission limits such that they only apply to boilers in the coal subcategory. As discussed above, based on information received during the public comment period, we determined that regulating POM emissions from area source biomass and oil boilers is not needed to meet our CAA section 112(c)(6) obligations; we only need to regulate coal-fired area source boilers under section 112(d)2) to meet the 90 percent requirement set forth in CAA section 112(c)(6) for POM. The emissions limits for CO for coal-fired boilers were based on the available information from the ICR and state operating permits, as well as that received in comments.

EPA disagrees with commenters who stated that we excluded emissions data collected by state and local permitting authorities in establishing the MACT floor. The available state permits obtained for coal-fired area source boilers limiting CO emissions were for 11 units located in Ohio (3 units), and Illinois (8 units). We also obtained CO emission data from five coal-fired area source boilers as part of the information collection effort for the major source NESHAP. Even though the latter data were gathered in the course of collecting data on major sources, the emission data on these five boilers is from emission sources in the area source coal-fired boiler subcategory.

With respect to non-detect data, EPA considered and accounted for non-detect data when conducting the MACT analysis for mercury for existing and new coal-fired boilers in this final rule. EPA developed a methodology to account for the imprecision introduced by incorporating non-detect data into the MACT floor calculation. At very low emission levels where emissions tests result in non-detect values, the inherent imprecision in the pollutant measurement method has a large influence on the reliability of the data

underlying the MACT floor emission limit. Because of sample and emission matrix effects, laboratory techniques, sample size, and other factors, method detection levels normally vary from test to test for any specific test method and pollutant measurement. The confidence level that a value, measured at the detection level is greater than zero, is about 99 percent. The expected measurement imprecision for an emissions value occurring at or near the method detection level is about 40 to 50 percent. Pollutant measurement imprecision decreases to a consistent level of 10 to 15 percent for values measured at a level about three times the method detection level.[5]

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

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

Variability

Comment: Numerous commenters stated that the floor methodology used by EPA is unlawful. Some commenters criticized EPA's application of the UPL to all the test results for all sources in the top twelve percent. These commenters stated that while EPA can consider variability in estimating an individual source's performance over time, it cannot account for differences in performance between sources. Specifically, these commenters stated that EPA may only account for differences in performance between sources except as CAA section 112(d)(3) provides, by averaging the emission levels achieved by the sources in the top 12 percent. Commenters stated that the UPL is not equivalent to the "average" emission level. For instance, some commenters stated that the methodology for the mercury and CO emission limits for new coal fired units does not reflect the emission levels achieved by the single best performing source; these commenters stated that the proposed method results in higher emission levels for new sources than the average level of the best 12 percent.

Commenters further stated that EPA erred by relying on the 99 percent UPL only to reflect variability. Some commenters stated that EPA must collect and consider data on additional variability, such as that related to variable fuel quality or longer term variability, to supplement its analysis. These commenters stated that the short-term test data are not representative of long-term operation of a unit nor are they likely to reflect the "worst reasonably foreseeable circumstances" a unit may experience. Other commenters stated that EPA should use the upper tolerance limit (UTL) in lieu of the UPL; these commenters claimed that the UTL is more appropriate for situations where the available data does not represent the entire population.

Response: EPA disagrees with commenters and believes that the final emission limits appropriately account for variability. The Court has recognized that EPA may consider variability in estimating the degree of emission reduction achieved by the best-performing sources and in setting MACT floors that the best performing sources can expect to meet "every day and under all operating conditions". *See Mossville Environmental Action Now* v. *EPA*, 370 F.3d 1232, 1241–42 (DC Cir 2004). Furthermore, CAA section 112(d)(3) includes a provision stating that the MACT floor for existing sources cannot be less stringent than "the average emission limitation achieved by the best-performing 12 percent of the existing sources (for which the Administrator has emissions information)." We see no statutory prohibition in considering inter-source variability of the best performing sources (which is all our floor calculation does, by considering the pooled variability of the best performing sources). Section 112(d)(3) of the CAA does not specify any single method of ascertaining an average. Considering the average variability among the group of best performing sources is well within the language of the provision (and was upheld in *Chemical Manufacturers Association* v. *EPA; see* 870 F. 2d at 228). The commenters' argument that "average" can only mean average of emission levels achieved in performance tests of an individual unit is inconsistent with the holding in *Mossville,* 370 F. 3d at 1242, that EPA must account for variability in developing MACT floors and that individual performance tests do not by themselves account for such variability. Therefore, we believe that it is reasonable and necessary to account for inter-source variability of the best performing sources by taking the pooled average of the best performing sources' variability. This is an aspect of identifying the average performance of those sources.

Furthermore, EPA is confident that the UPL is an appropriate statistical tool to use in determining variability when there is a limited sampling of the source category. EPA has considered comments regarding suggested alternatives to the UPL statistic, such as the upper tolerance limit (UTL). Whereas a confidence interval covers a population parameter with a stated confidence, that is, a certain proportion of the time, a tolerance interval covers a fixed proportion of the population with a stated confidence. That is, confidence limits are limits within which we expect a given population parameter, such as the mean, to lie; statistical tolerance limits are limits within which we expect a stated proportion of the population to lie. Given this definition, the 99 percent UTL represents the value which we can expect 99 percent of the measurements to fall below 99 percent of the time in repeated sampling. In other words, if we were to obtain another set of emission observations from the floor sources, we can be 99 percent confident that 99 percent of these measurements will fall below a specified level. Since you must calculate the sample percentile, and the sample sizes for the area source boiler

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

floor data are small, the 99th percentile is underestimated. Therefore, EPA notes that the UTL should only be used where one can calculate a sample percentile, e.g., where there is a sample size of at least 100. On the other hand, a prediction interval for a future observation is an interval that will, with a specified degree of confidence, contain the next (or some other pre-specified) randomly selected observation from a population. In other words, the prediction interval estimates what future values will be, based upon present or past background samples taken. The UPL represents the value which we can expect the mean of 3 future observations (3-run average) to fall below, based upon the results of the independent sample of size n from the same population. Given the above considerations, EPA notes that only the UPL adequately gets at the notion of average emissions for a small sample size.

EPA has revised its default selection of data distributions consistent with its guidance document "Data Quality Assessment: Statistical Methods for Practitioners EPA QA/G–9S". This document indicates that most environmental data is lognormally distributed, so EPA has modified its assumptions when the results of the skewness and kurtosis tests result in a tie, or when there is not enough data to complete the skewness and kurtosis tests. With respect to the methods used to compute the UPL for a dataset that is determined to be lognormally distributed, EPA also considered the commenters suggested revisions to the calculations in order to avoid skewing the UPL by calculating the UPL of an arithmetic mean instead of the UPL of a geometric mean. To adjust the calculation EPA considered a scale bias correction approach as well as a new UPL equation based on a Bhaumik and Gibbons 2004 paper, which calculates "An Upper Prediction Limit for the Arithmetic Mean of a Lognormal Random Variable[6]". Given data availability, EPA selected the Bhaumik and Gibbons 2004 approach which addresses commenters concerns with the proposed computations.

Additionally, EPA has determined that 99 percent UPL is appropriate for fuel based HAP, and a 99.9 percent UPL is appropriate for CO. For fuel-based HAP the 99 percent confidence level is consistent with other recent rulemakings (75 FR 54975). Further, as commenters have noted elsewhere, the sample sizes were limited and EPA determined that a level of 99 percent is a good compromise and represents emission levels that are protective of human health and the environment. Given that the subcategories had limited data to establish the floor calculations, EPA determined it was inappropriate to use a confidence level lower than 99 percent. Further, for fuel based HAP mercury, EPA has implemented an additional fuel variability analysis. Additionally, there are well established control measures currently used on units in the source category (fabric filters for PM and mercury) that serve to mitigate, to some degree, the variability in emissions that can be expected. Given these additional considerations for fuel-based HAP, but recognizing the emission limits must be met at all times yet are based on short term stack test data, EPA selected the 99 percent confidence level. For CO, EPA considered both quantitative and qualitative comments received during the public comment period on how CO emissions vary with load, fuel mixes and other routine operating conditions. After considering these comments EPA determined that a 99.9 percent confidence level for CO would better account for some of these fluctuations.

Finally, EPA notes that where appropriate, we have accounted for variable fuel quality. EPA first took fuel into consideration, among other boiler design factors when it divided the source category into subcategories. EPA is aware that differences between given types of units, and fuel, can affect technical feasibility of applying emission control techniques. As noted in the preamble to the June 2010 proposed rule, EPA attempted to assess the impact of fuel variability for development of the mercury standard. However, no fuel analysis data from boilers in the top 12 percent were available for assessing the impact of fuel variability on mercury emissions. EPA realizes that mercury is a fuel dependent HAP, and that the amount of mercury emitted from the boiler depends on the amount of mercury contained in the fuel. For this final rule, we have implemented a fuel variability factor into the mercury emission limit by determining a factor relating the highest mercury content to the average mercury content in coal that may be used at sources comprising the best 12 percent of sources. We also note that fuel usage can be reduced by improving the combustion efficiency of the boiler. Therefore, in the development of the final standards, we are establishing requirements for larger existing boilers (greater than 10 MMBtu/h heat input capacity) to conduct an energy assessment, and smaller boilers (both existing and new boilers with a heat input capacity less than 10 MMBtu/h) to meet a work practice or management practice requirements of a tune-up, in order to improve combustion efficiency.

D. Beyond the Floor Analysis

Comment: Several commenters objected to EPA's beyond-the-floor determination for new area source boilers. Many of these commenters stated that the beyond the floor approach must consider fuel switching as an option. Other commenters objected to EPA's beyond-the-floor determination for existing boilers, specifically stating that EPA should require existing facilities to either comply with emission limits for larger units, or require fuel switching to the cleanest fuel in their class (fuel type). Commenters noted that while EPA identified substantial emissions reductions for mercury and POM from switching coal-fired boilers to natural gas, EPA failed to rationalize why fuel-switching is not a technically feasible or economically achievable option. Commenters debated EPA's stated concerns regarding fuel availability and curtailment, arguing that there is sufficient capacity to meet the expected increased demand for natural gas. Furthermore, these commenters stated that the potential increases in metallic HAP emissions from fuel-switching were minor and should be considered in light of overall reductions for POM.

Response: EPA has considered this comment and concluded that fuel switching is not an appropriate option for the beyond the floor level of control. EPA originally considered whether fuel switching would be an appropriate control option for sources in each subcategory under the proposed rule, including the feasibility of 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. We also gave consideration to whether fuel switching could be technically achieved by boilers in the subcategory considering the existing design of boilers and 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 or beyond the floor level of control for any subcategory. This decision is based on the overall effect of

[6] Bhaumik, D. K. and R. D. Gibbons. 2004. An Upper Prediction Limit for the Arithmetic Mean of a Lognormal Random Variable. May 1, 2004. Technometrics 46(2): 239–248. doi:10.1198/004017004000000284

fuel switching on HAP emissions, technical and design considerations discussed previously in the preamble to the proposed June 2010 rule (75 FR 31896), and concerns about fuel availability. This determination is discussed in the memorandum "Development of Fuel Switching Costs and Emission Reductions for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants—Area Source" located in the docket.

Energy Assessments

Comment: Several commenters disagreed with EPA's determination to require energy assessments as a beyond the floor option. Commenters specifically stated that EPA cannot require an energy assessment because an assessment is not an emission standard and there is no proven relationship between HAP emissions and the assessment. Other commenters argued that the proposed requirements for an energy assessment were not stringent enough; these commenters stated that an energy assessment cannot impose standards more stringent than the MACT floor. For instance, one commenter argued that if EPA did not require implementation of the energy assessment findings, no reductions in fuel use or HAP would result. The commenter further asserted that even an implemented energy assessment would not reduce HAP emissions consistent with the requirements of CAA section 112(d)(2). One commenter specifically stated that by only considering energy audits, EPA did not consider the full range of potential emission measures.

Other commenters argued that EPA does not have the authority to require an energy assessment, and that the proposed requirements were "too broad" or "too intrusive." Commenters were concerned that the energy assessment would include not only the affected source, but also the entire facility, which EPA does not have the authority to regulate.

Response: EPA disagrees with commenters that state that EPA does not have the authority to require an energy assessment. An energy assessment is an appropriate beyond-the-floor control technology because it is one of the measures identified in CAA section 112(d)(2). CAA section 112(d)(2) states that "Emission standards promulgated * * * and applicable to new or existing sources * * * is achievable * * * through application of measures, processes, methods, systems or techniques including, but not limited to measures which—

(A) Reduce the volume of, or eliminate emissions of, such pollutants through process changes, substitution of materials or other modifications, * * *

(D) Are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in subsection (h), or

(E) Are a combination of the above."

The purpose of an energy assessment is to identify energy conservation measures (such as, process changes or other modifications to the facility) that can be implemented to reduce the facility energy demand which would result in reduced fuel use. Reduced fuel use will result in a corresponding reduction in HAP, and non-HAP, emissions. Thus, an energy assessment, in combination with the MACT emission limits will result in the maximum degree of reduction in emissions as required by CAA section 112(d)(2).

It is not EPA's intent to require an energy assessment for the entire facility; the energy assessment is only applied to existing boilers and their energy use systems located at area sources. EPA acknowledges that the proposed definition for "energy assessment" is unclear, and we have revised this final rule to clarify the definition with respect to the requirements of Table 3 of subpart JJJJJJ (*see* 40 CFR 63.11237). In order to account for variability among boiler systems and energy use systems and to ensure that affected sources can adequately comply with the requirements, we have distinguished the requirements for the energy assessment based on the heat input use of the affected source. We have also added a definition for "energy use systems" to clarify the components for each boiler system and energy use system which must be considered during the energy assessment, including elements such as combustion management, thermal energy recovery, energy resource selection, and the steam end-use management of each affected boiler. These revisions clarify that an energy assessment is only required for those portions of the facility using the energy generated from the affected boiler system.

Additionally, a facility may elect, but is not required, to implement the cost-effective energy conservation measures identified in the energy assessment. Because we lack information on whether implementation of the conservation measures will prove cost-effective or economically feasible for facilities, we are allowing the owner or operator to determine the implementation of energy conservation measures identified in the energy assessment. EPA notes that the cost of an energy assessment is minimal, in most cases, compared to the cost for testing and monitoring to demonstrate compliance with an emission limit. Furthermore, the costs of any energy conservation improvement for the owner or operator will be offset, at least in part, by the cost savings in lower fuel costs. Therefore, after considering the structure of the requirement, the incentives it presents, and the likely behavior of sources, it is our judgment that sources will find it cost-effective to implement the conservation measures identified in the energy assessment, and we have elected to promulgate requirements for an energy assessment for all existing boilers with a heat input capacity greater than 10 MMBtu/h as a beyond the floor option or GACT.

EPA disagrees with commenters that state that the option for an energy assessment included in the June 2010 proposed rule is not stringent enough. An energy assessment refers to a process which involves a thorough examination of potential savings from energy efficiency improvements, pollution prevention, and productivity improvement. It leads to the reduction of pollutants through process changes and other efficiency modifications. Improving energy efficiency reduces negative impacts on the environment as well as operating and maintenance costs; improvements in energy efficiency result in decreased fuel use which results in a corresponding decrease in emissions (both HAP and non-HAP) from the boiler. The revised definitions of "energy assessment" and "energy use systems," as discussed above, have been expanded to include the specific components that must be considered for an energy assessment. These changes elucidate the in-depth nature of the energy assessment, which requires identifying all energy conservation measures appropriate for a facility given its operating parameters.

EPA proposed the energy assessment as a beyond the floor option for existing area source boilers having a heat input capacity of greater than 10 MMBtu/h, rather than focusing on smaller boilers. We also examined other emission measures currently in place. EPA did not have sufficient information to determine if requiring an energy assessment for area boilers with a heat input capacity of less than 10 MMBtu/h is economically feasible. For boilers with a heat input capacity less than 10 MMBtu/h, the data that we have suggests that area source boilers typically conduct boiler tune-ups. We also examined work practices listed in

state regulations for area source boilers with a heat input capacity less than 10 MMBtu/h. These regulations included tune-ups (10 states), operator training (one state), periodic inspections (two states), and operation in accordance with manufacturer specifications (one state).

When energy assessments have been undertaken in the past, they typically result in 10 to 15 percent reduction in fuel use, according to the Department of Energy who has conducted energy assessment at selected manufacturing facilities.[7] While the efficiency gains may be somewhat less when the assessment is mandated for a source rather than voluntary, the absence of a requirement to implement the particular findings of the assessment should still result in measures being implemented that are cost-effective for the source and in emission reductions over and above what is otherwise required by MACT and other GACT measures. Therefore, we elected to promulgate requirements for an energy assessment for all existing boilers with a heat input capacity greater than 10 MMBtu/h, and require area source boilers in the biomass and oil subcategories with a heat input capacity of greater than 10 MMBtu/h to meet the management practice standard of a tune-up. These requirements represent the generally available and cost-effective pollution reduction measures that are already required or in place.

E. GACT Standards

Comment: Commenters stated that the GACT standards should consist of work practice standards, rather than numeric emission limits. One commenter specifically stated that in order to reduce the burden on small facilities operating boilers, EPA should establish work practice standards for CO instead of emission limits, referencing requirements from the state of New Jersey. Other commenters stated that the emission limits and testing procedures proposed for new boilers impose onerous capital and annual costs on potential project owners, which typically include schools, small businesses, hospitals, and other institutions in rural areas. Some commenters stated that the CO emission limits were not achievable for small boilers over a range of operating periods, and that EPA should consider work practice standards in order to account for load variability.

Response: CAA section 112(d)(5) allows the Administrator, with respect to area sources, to promulgate standards which provide for the use of generally available control technologies or management practices to reduce emissions of HAP. Therefore, with respect to mercury and POM from area source boilers classified as biomass-fired or oil-fired, as well as with respect to other urban HAP besides POM, we have developed standards that reflect GACT for these two area source categories.

While the June 2010 proposed rule (75 FR 31896) set numeric MACT standards for CO (as a surrogate pollutant for the individual urban organic HAP) and mercury, and numeric GACT emission limits for PM (as a surrogate for the individual urban metal HAP), EPA has revised the standards for area source boilers classified in the biomass and oil subcategories. Rather than require a numeric MACT emission limit for POM, new and existing area source boilers in the biomass or oil subcategories must meet the requirements of GACT, which are management practice standards as described in Table 2 of 40 CFR part 63, subpart JJJJJJ.

However, for the purposes of regulating PM from new area source boilers, EPA has determined that the GACT standards should consist of numeric emission limits. PM is used as a surrogate for urban metals, which we are required to regulate pursuant to CAA section 112(c)(6). The data that we have available suggests that the control technologies currently used by facilities in the source category for reduction of non-mercury metallic HAP and PM are multiclones, which are generally used at area sources using solid fuel. We previously determined during the development of the June 2010 proposed rule that these controls are generally available and cost effective for new area source boilers. Additionally, we noted that new area source boilers with heat input capacity of 30 MMBtu/h or greater are subject to the NSPS for boilers (either subpart Db or Dc of 40 CFR part 60), which regulate emissions of PM and require performance testing. Furthermore, new coal-fired area source boilers with heat input capacity of 10 MMBtu/h or greater will likely require a PM control device to comply with the proposed mercury MACT standard and required performance testing. Therefore, a numerical limit for PM consistent with the devices required to meet mercury MACT should be generally achievable.

EPA has also revised the PM emission limits for area source boilers with a heat input capacity between 10 and 30 MMBtu/h; these limits have been revised to reflect the performance of GACT, which are multiclones. The PM GACT limits were calculated as the average of the data from units using GACT technology. EPA has determined that the promulgated numeric emission limits for PM are appropriate GACT standards for new area source boilers with a heat input capacity greater than 10 MMBtu/h. For new boilers with a heat input capacity less than 10 MMBtu/h, GACT is a management practice of a tune-up because, as previously discussed, there are technical and economic limitations of conducting PM testing on boilers with small diameter stacks.

Tune-Ups

Comment: Several commenters expressed concern regarding proposed work practice standards for existing area source boilers, including the requirement of a tune-up for control of POM and mercury. Commenters stated that tune-ups aimed at reducing CO may increase NO_X emissions, reduce combustion efficiency, and/or increase fuel use. Commenters noted that many typical tune-up requirements, including states' requirements, are aimed at minimization of NO_X and not CO. These commenters stated that the proposed tune-up requirements could violate the state tune-up requirements due to increases of NO_X. Multiple commenters requested that EPA specify that tune-ups consider optimizing efficiency and limiting increases of NO_X, and not only require minimizing CO.

Other commenters requested that EPA allow the use of portable instruments to measure CO for the tune-up requirements. Several commenters requested that EPA clarify that, for the tune-up procedures, gases do not have to be measured using EPA Reference Methods. These commenters indicated that requiring EPA Methods would increase the cost burden for small facilities.

Response: EPA disagrees with commenters and is requiring tune-ups as a work practice standard for coal-fired area source boilers with a heat input capacity less than 10 MMBtu/h and as a management practice standard for all biomass-fired and oil-fired area source boilers. EPA acknowledges that that a tune-up designed to specifically decrease CO emissions from an area source boiler would potentially increase emissions of NO_X. However, it was not EPA's intent to require that area source

[7] Case studies and success stories highlighting energy savings achieved by companies that have participated in energy assessments can be found at *http://www1.eere.energy.gov/industry/saveenergynow/case_studies.html* and at the Department of Energy's Energy Assessment Centers Database *http://iac.rutgers.edu/database.*

boilers be specifically tuned for the reduction of CO emissions, but rather to require good combustion practices (GCP) by ensuring that area source boilers are tuned to manufacturer's specifications. As discussed in the preamble to the June 2010 proposed rule, boilers may be, at best, 85 percent efficient, and untuned boilers may have combustion efficiencies of 60 percent or lower. Furthermore, as the combustion efficiency decreases, fuel usage increases to maintain energy output resulting in increased emissions. A tune-up performed to the manufacturer's specifications would ensure the highest energy efficiency and reduce fuel usage, which will ultimately reduce HAP emissions. As commenters noted, the tune-up requirements specified by area source boiler manufacturers are generally aimed at reducing NO_X and would not increase emissions of NO_X. The tune-up provisions incorporated in this final rule for area source boilers require that the owner or operator measure the concentration in the effluent stream of CO in ppm, by volume, dry basis (ppmvd), before and after adjustments are made to the boiler. EPA does not specify the instrument that must be used for measuring these concentrations, and allows owners and operators to choose the method of measurement. Therefore, EPA agrees with commenters that portable instruments are permissible for this purpose.

F. Subcategories

Comment: Several commenters raised concerns regarding the subcategories defined by EPA in the development of the proposed rule. Multiple commenters argued that the proposed subcategories are unlawful and arbitrary because they are not based on different classes, types, or sizes. At least one commenter specifically stated that the proposed subcategorization defied the explicit recommendation of the Small Entity Representatives (SERs) to the Small Business Advocacy Review (SBAR) Panel, which recommended that "EPA should subcategorize based on fuel type, boiler type, duty cycle, and location." Many of these commenters suggested subcategories based on limited use, type of biomass (wood, bark, agricultural residue, moisture level) and/or coal (bituminous, anthracite), boiler design (stoker, fluidized bed, or suspension), heat input capacity smaller than 1 MMBtu/h, and combustion of secondary materials. Other commenters recommended that the same subcategories applied to major sources should be used for area sources.

Response: EPA disagrees with commenters. 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 boiler area source category. Through subcategorization, we are able to define subsets of similar emission sources within a source category if differences in emissions characteristics, technical feasibility of applying emission control techniques, or opportunities for pollution prevention exist within the source category. The design, operating, and emissions information that EPA reviewed during the area source rulemaking indicates the need to subcategorize based on boiler design which is based on the fuel type. EPA continues to believe that this subcategorization is appropriate. As noted in the preamble to the June 2010 proposed rule, boiler systems are designed for specific fuel types (e.g., coal, biomass, oil or a mixture/combination) and will encounter problems if a fuel or mixture with characteristics other than those originally specified is fired. EPA has noted that emissions from boilers burning coal, biomass, and oil will also differ, and that HAP formation, including emissions of metals and mercury, is dependent upon the composition of the fuel. Organic HAP, on the other hand, are formed from incomplete combustion, which are a function of time, turbulence, and temperature, and are influenced by the design of the boiler and dependent in part on the type of fuel being burned. Because these different types of boilers have different emission characteristics which may influence the feasibility and effectiveness of emission control, we believe that subcategorizing them by fuel type is appropriate.

Additionally, EPA notes that we lack sufficient emissions data for area source boilers to develop limits for additional subcategories. We have elected to establish different subcategories for the major and area source rulemakings, as major source boilers have a different scale of operation and often different combustor designs. There is also more detailed emissions data available for the major source category, which favors the development of more specific subcategories. Because we lack the same level of detail for the area source category, EPA has determined that it would be inappropriate to establish the same subcategories for major and area source boilers.

We believe that area source boilers are generally designed to burn a standard fuel type and less capable of switching fuel type as some major source boilers. However, as was done for the major source NESHAP, we have redefined how to determine the appropriate subcategory. Instead of considering whether the boiler is designed to combust at least 10 percent coal as the first step (as proposed), the first step in determining the appropriate subcategory is to consider the percentage of biomass that is combusted in the boiler.ies are determine.

In addition, as discussed in the comments below, we have established a small units subcategory for each type of fuel (area source boilers with a heat input capacity of less than 10 MMBtu/h), and see no further need for smaller subcategories. We have also adjusted the definition for each fuel subcategory to account for the combustion of secondary materials. The definitions have been clarified to specify that the fuel subcategories are based on the fuel that the boiler is designed to combust, rather than the actual fuel that the boiler is combusting.

Finally, as discussed earlier in this section, we have revised the MACT and GACT limits for the coal, oil, and biomass subcategories in this final rule. Existing oil and biomass-fired boilers are no longer required to meet emission limits, and are only required to meet management practice standards under this final rule. Furthermore, coal-fired boilers with a heat input capacity of less than 10 MMBtu/h are only required to meet work practice standards. While more stringent limits under this final rule may have required subcategories based on the size of the unit, EPA has determined that the subcategories chosen are reasonable based on the applicable requirements of this final rule.

Combustion of Secondary Fuels

Comment: Multiple commenters sought clarity for the combustion of secondary materials and/or alternative fuels within the proposed subcategories for area source boilers. Several of these commenters requested clarification of the defined fuels for the biomass, coal, and oil-fired subcategories, as well as additional clarification regarding gas-fired boilers. Some commenters stated that EPA's determination that the boilers subject to this rule do not combust any non-hazardous secondary materials is erroneous, and that to not

consider standards for units burning secondary materials would be unlawful.

Many commenters recommended that EPA classify boilers based on predominant use of a particular fuel; several commenters recommended redefining the subcategories to allow minimal burning of other fuels or for further clarification. For instance, some commenters expressed concern regarding "combination boilers" (boilers that co-fire coal in an amount greater than 10 percent heat input basis with at least 10 percent biomass), which do not cleanly fit into either the coal-fired boiler subcategory or the biomass-fired boiler subcategory. Other commenters argued that the definition of gas-fired boilers should allow for units burning less than 10 percent liquid fuels. Many of the commenters suggested alternative definitions for the proposed subcategories or provided alternative thresholds.

Alternatively, there were some commenters who expressed concern regarding the use of alternative fuels. Commenters specifically stated that allowing 10 percent alternative fuel use, or use of multiple alternatives from year to year, would create significant enforcement issues for states without detailed requirements for tracking, recordkeeping, and reporting.

Response: EPA has considered these comments and revised the subcategories based on a revised MACT floor approach. As discussed in Section IV.A of this preamble, we have redefined the coal, biomass and oil subcategories for area source boilers to clarify the fuel inputs that define each subcategory. While the subcategories under the proposed rule accounted for secondary materials such as biomass, liquid or gaseous fuels combusted in combination with traditional fuels, we wished to clarify each subcategory in order to account for the combustion of an array of secondary fuels. Area source boilers combusting coal, biomass or oil may also combust secondary materials as part of their fuel mix. It was not our intent to exclude boilers combusting these non-hazardous secondary materials that do not meet the definition of "solid waste" from the coal, biomass or oil-fired subcategories. Therefore, we have revised the definition for each subcategory to account for the combustion of these non-hazardous secondary materials.

For instance, the proposed rule limited the coal subcategory to boilers combusting coal or coal in combination with biomass, liquid, or gaseous fuels. We have redefined the coal subcategory to include boilers that burn any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis. "Solid fossil fuels" has been defined to include, but not limited to, coal, petroleum coke, coal refuse, and tire derived fuel (TDF). Similarly, we have revised the biomass subcategory to account for boilers that may burn biomass and secondary materials. The biomass subcategory includes boilers combusting at least 15 percent of biomass. This definition differentiates these primarily biomass-fired boilers from the coal subcategory. Additionally, the oil subcategory has been revised to include boilers that burn any liquid fuel but are not included in either the coal or biomass subcategories.

Based on new data submitted during the public comment period, EPA has determined that area source boilers may combust secondary materials. Data submitted indicates that as much as 15 percent of secondary materials, or alternative traditional fuel, may be mixed without causing problems with boiler operations. We wished to differentiate boilers combusting greater than 15 percent of biomass from the remaining subcategories, as these fuels will have higher rates of organic HAP due to the higher moisture content of biomass compared to fossil fuel. The revised definitions for the coal, biomass and oil subcategories clarify this by establishing the fuel type and the input ratio of each fuel type combusted. Therefore, the revised definitions more accurately reflect EPA's intent to include and account for boilers combusting secondary materials in the coal, biomass, and oil subcategories and the effect of biomass on the combustion process.

Comment: A number of commenters requested that EPA provide exemptions for specific unit types, including limited use boilers, recovery boilers, hot water heaters, boilers firing ultra low sulfur #2 fuel oil, and boilers with a heat input capacity of less than 1 MMBtu/h. Other commenters stated that EPA is not justified in providing an exemption for gas-fired boilers.

Response: As noted in Section VII of the proposed June 2010 rule, in the **Federal Register** notice "Source Category Listing for Section 112(d)(2) Rulemaking Pursuant to Section 112(c)(6) Requirements," (63 FR 17838, 17849), Table 2 (1998), EPA identified "Industrial Coal Combustion," "Industrial Oil Combustion," "Industrial Wood/Wood Residue Combustion," "Commercial Coal Combustion," "Commercial Oil Combustion," and "Commercial Wood/Wood Residue Combustion" as source categories "subject to regulation" for purposes of CAA section 112(c)(6). Notably, gas-fired units are not included in the source category listing for area source boilers. Without such a listing, EPA cannot address gas-fired boilers in this regulation. We have also included in this final rule an exemption for hot water heaters because these units are, as defined in this final rule, considered residential boilers. In addition, recovery boilers would be exempt because they are regulated under another section 112 MACT standard (*See* 40 CRF part 63, subpart MM).

Conversely, EPA is required to set standards for other unit types, including limited use boilers and boilers firing ultra low sulfur fuel oil. These boilers are included in the source category listing for CAA section 112(d)(2) and emit the pollutants identified in CAA section 112(c)(3). As discussed above, EPA has set appropriate MACT and GACT limits to boilers based on fuel type and size, including area source boilers with a heat input capacity of less than 10 MMBtu/h. EPA also notes that waste heat boilers have been excluded from the definition of boiler.

G. Startup, Shutdown, and Malfunction

Comment: Several commenters stated that a separate standard must be developed for periods of startup and shutdown. Commenters stated that requiring emission limits during SSM directly conflicts with the requirement that MACT be achievable and is technically feasible; therefore EPA could not require emission limits during periods of SSM. Some commenters requested a separate standard for CO for startup; at least one commenter specifically stated that many area source boilers must operate under conditions driven by safety considerations, operational concerns, and warranty requirements that would likely generate unavoidable increases in CO emissions during startup and shutdown. The commenter therefore concluded that requiring a CO emission limit during startup and shutdown would not only be technically unachievable, but would promote unsafe and improper operation. Several commenters suggested that work practice standards are more appropriate than emission limits, citing a lack of relevant data for periods of SSM. Other commenters specifically objected to EPA's decision to base the SSM requirements on data from the proposed major source NESHAP for industrial, commercial, and institutional boilers and stated that the data from the proposed major source rule cannot be applied to area sources.

Response: EPA has considered these comments and has revised this final rule to incorporate a work practice standard

for periods of startup and shutdown. As part of the development of the proposed rule, we reviewed the cost information for CO CEMS provided by commenters on the NESHAP for major source boilers and determined that requiring CO CEMS for units with heat input capacities greater or equal to 100 MMBtu/hr was reasonable. However, EPA has revised this final rule to only require emission limits for mercury and CO for coal-fired boilers. Furthermore, we are only requiring sources to perform a work practice standard, following the manufacturer's recommended procedures, to demonstrate compliance with the emission limits for area source coal-fired boilers during periods of startup and shutdown. Based on the available dataset for facilities in the affected area source category, EPA determined that there are currently no existing coal-fired boilers with a heat input capacity greater than 100 MMBtu/h located at area sources. Coal-fired boilers with a heat input capacity of greater than 50 MMBtu/h are generally major sources of HAP. Therefore, requiring CEMS for boilers of this size is unnecessary for the defined source category.

In lieu of CEMS, we also considered whether requirements for performance testing would be feasible for area source boilers during periods of startup and shutdown. Upon review of these requirements, EPA determined that it is not feasible to require stack testing—in particular, to complete the multiple required test runs—during periods of startup and shutdown due to physical limitations and the short duration of startup and shutdown periods. Therefore, a separate standard must be developed for these periods.

In regards to malfunctions, EPA had previously determined in the development of the proposed rule that malfunctions should not be viewed as a distinct operating mode and, therefore, any emissions that occur at such times do not need to be factored into development of CAA section 112(d) standards, which, once promulgated, apply at all times. As discussed in Section III.E of this preamble, EPA has added to this final rule an affirmative defense for civil penalties for exceedances of numerical emission limits that are caused by malfunctions.

Therefore, as allowed under CAA section 112(h), we are requiring a work practice standard for all coal-fired area source boilers during periods of startup and shutdown. The work practice standard requires following the boiler manufacturer's specifications for periods of startup and shutdown.

H. Compliance Requirements

Rationale for Demonstrating Compliance

Comment: Several commenters expressed concern that, given the large numbers of boilers that would be affected by the proposed rule and the limited capacity of existing vendors, contractors, and engineers, a 3-year time period would not be sufficient to allow completion of all of the required modifications.

Response: EPA has re-evaluated the compliance dates for this final rule following the revised MACT and GACT standards. We have revised the initial compliance dates for existing affected sources according to the applicable provisions for each affected source (e.g., work practice or management practice standards, emission limits, and/or an energy assessment), as discussed in Section VI.E of this preamble. EPA has determined that existing sources subject to a work practice standard of a tune-up must comply with this final rule no later than one year after publication of this final rule. We have determined that one year is adequate time for affected sources to meet the work practice or management practice standard, which includes a tune-up based on the manufacturer's recommendations. Existing sources subject to an emission limit or an energy assessment requirement are required to comply with this final rule no later than 3 years after publication of the final rule. Section 112(i)(3)(B) allows EPA, on a case-by-case basis to grant an extension permitting an existing source up to one additional year to comply with standards if such additional period is necessary for the installation of controls. The EPA feels that 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.

Comment: Commenters objected to proposed requirements to use CEMS and in some circumstances COMS. Commenters stated that these requirements are extremely burdensome on area sources considering the testing requirements and costs, and that the requirements for CO CEMS for units less than 100 MMBtu/h are too onerous. Commenters noted that many units at this size in the industrial and institutional sector do not operate frequently; therefore the cost of installing CO CEMS was not justified for units with such limited operation. Other commenters argued that requiring boilers to test for CO poses a significant regulatory burden. Several commenters stated that the proposed testing frequency was burdensome.

Response: EPA has considered these comments, and we have revised the proposed continuous compliance requirements to not require a CO CEMS for area source boilers. Per the revised MACT and GACT determinations, this final rule only requires emission limits for mercury and CO for coal-fired units. Therefore, for new and existing coal units with a heat input capacity greater than 10 MMBtu/h, we are requiring stack testing every 3 years to demonstrate compliance with the CO emission limits. In the development of the proposed rule, we reviewed the cost information for CO CEMS provided by commenters on the NESHAP for major source boilers and determined that requiring CO CEMS for units with heat input capacities greater or equal to 100 MMBtu/h was reasonable. However, based on a review of the available dataset for facilities in the affected area source category, we have determined that there are currently no existing coal-fired boilers with a heat input capacity greater than 100 MMBtu/h located at area sources. Therefore, requiring CEMS for coal-fired boilers of this size is unnecessary for the defined source category. Additionally, boilers in the biomass and oil subcategories with a heat input capacity greater than 10 MMBtu/h are not required to meet emission limits for CO in this final rule; these boilers are subject to the management practice standards in Table 2 of 40 CFR part 63, subpart JJJJJJ, and therefore, no CO testing is required for these units.

I. Cost/Economic Impacts

Comment: Multiple commenters stated that the economic impacts of the proposed rule were significantly underestimated. Many commenters stated that the CO limits would require costly controls, and specifically, that the cost of particulate control for biomass boilers was severely underestimated. Other commenters stated that EPA made erroneous assumptions in performing the cost calculations. For instance, one commenter stated that EPA does not have enough data to support the assumption that fabric filters alone will be sufficient for area source coal-fired boilers to meet the proposed mercury limit.

Response: In light of changes to this final rule, EPA believes that these concerns are no longer an issue. We have revised the costs estimates for this final rule to reflect EPA's determination of the final MACT standards for coal-fired boilers and GACT standards for biomass and oil-fired boilers. For

instance, EPA is only requiring particulate emission limits for new boilers with a heat input capacity of greater than 10 MMBtu/h; smaller boilers must only meet the management practice standard of a tune-up. These changes have significantly decreased the costs presented in the proposed June 2010 rule. Additionally, commenters provided additional cost information during the public comment period; EPA has incorporated this information into the analysis for this final rule. Based on this re-analysis, EPA has determined that fabric filter controls are generally available and cost effective for new area source boilers. As noted previously, new area source boilers with a heat input capacity of 30 MMBtu/h or greater are subject to the NSPS for boilers (either subpart Db or Dc of 40 CFR part 60), which regulate emissions of PM and require performance testing. Furthermore, new coal-fired area source boilers will likely require a PM control device to comply with the proposed mercury MACT standard and required performance testing. We determined in the context of the major source rulemaking, and from further analysis of new data submitted during the public comment period, that fabric filters are the most effective technology employed by industrial, commercial, and institutional boilers for controlling mercury and particulate emissions. Therefore, EPA has determined it is appropriate and cost-effective to estimate the cost of compliance based on fabric filters for new area source boilers.

Comment: Some commenters stated that this final rule would have substantial impacts on rural communities. Commenters noted that many rural communities rely upon or significantly benefit from the use of biomass boilers for energy at manufacturing facilities, schools and hospitals. These commenters stated that the proposed rule will negatively impact both boiler owners and fuel suppliers in these communities. Similarly, other commenters stated that this final rule would have a significant adverse impact on the use of biomass renewable energy throughout the economy.

Response: In light of the changes made to the final regarding biomass-fired area source boilers, we believe these concerns are no longer an issue. In the final rule, existing biomass area source boilers are only subject to the management practice of a tune-up and only existing biomass-fired area source boilers with a heat input capacity of 10 MMBtu/h or greater are required to have an energy assessment performed. There are no testing or monitoring requirements in this final rule for existing biomass-fired area source boilers. For a typical existing biomass-fired boilers, this change resulted in reducing the annualized cost of compliance from about $420,000 to about $2,200.

New biomass-fired area source boilers with a heat input capacity of 10 MMBtu/h or greater are only subject to a PM emission limit which requires a PM test be conducted once every 3 years.

J. Title V Permitting Requirements

In response to comments received and after further evaluation of the record, EPA has decided to exempt all area sources subject to this subpart from title V permitting. In evaluating the record, we have determined that observations and data we have relied upon in other rulemakings for distinguishing between sources that became synthetic area sources due to controls and other synthetic and natural area sources did not necessarily apply to this source category. Therefore, we lack sufficient information at this juncture to distinguish the sources which have applied controls to boilers in order to become area sources from other synthetic and natural area sources. As a result, the rationale for exempting most area sources subject to this rule as explained in the proposal preamble (*see* pages 31910 to 31913) is also now relevant for sources which we proposed to permit. Thus, no area sources subject to this subpart are required to obtain a title V permit as a result of being subject to this subpart.

A source subject to this subpart may be subject to title V permitting for another reason or reasons, e.g., being located at a major source. If more than one requirement triggers a source's obligation to apply for a title V permit, the 12-month timeframe for submitting a title V application is triggered by the requirement which first causes the source to be subject to title V. See 40 CFR 70.3(a) and (b) or 71.3(a) and (b).

VI. Relationship of This Action to CAA Section 112(c)(6)

CAA section 112(c)(6) requires EPA to identify categories of sources of seven specified pollutants to assure that sources accounting for not less than 90 percent of the aggregate emissions of each such pollutant are subject to standards under CAA section 112(d)(2) or 112(d)(4). EPA has identified "Industrial Coal Combustion," "Industrial Oil Combustion," Industrial Wood/Wood Residue Combustion," "Commercial Coal Combustion," "Commercial Oil Combustion," and "Commercial Wood/Wood Residue Combustion" as source categories that emit two of the seven CAA section 112(c)(6) pollutants: POM and mercury. (The POM emitted is composed of 16 polyaromatic hydrocarbons (PAH).) In the **Federal Register** notice, *Source Category Listing for Section 112(d)(2) Rulemaking Pursuant to Section 112(c)(6) Requirements,* 63 FR 17838, 17849, Table 2 (April 10, 1998), EPA identified "Industrial Coal Combustion," "Industrial Oil Combustion," Industrial Wood/Wood Residue Combustion," "Commercial Coal Combustion," "Commercial Oil Combustion," and "Commercial Wood/Wood Residue Combustion" as source categories "subject to regulation" for purposes of CAA section 112(c)(6) with respect to the CAA section 112(c)(6) pollutants that these units emit.

Specifically, as by-products of combustion, the formation of POM is effectively reduced by the combustion and post-combustion practices required to comply with the CAA section 112 standards. Any POM that does form during combustion is further controlled by the various post-combustion controls. The add-on PM control systems (fabric filter) used to reduce mercury and/or PM emissions further reduce emissions of these organic pollutants, as is evidenced by performance data. Specifically, the emission tests obtained at currently operating major source boilers show that the MACT regulations for coal-fired area source boilers will reduce Hg emissions by about 86 percent. It is, therefore, reasonable to conclude that POM emissions from coal-fired area source boilers will be substantially controlled.

In lieu of establishing numerical emissions limits for pollutants such as POM, we regulate surrogate substances. While we have not identified specific numerical limits for POM, we believe CO serves as an effective surrogate for this HAP, because CO, like POM, is formed as a product of incomplete combustion.

Consequently, we have concluded that the emissions limits for CO function as a surrogate for control of POM, such that it is not necessary to establish numerical emissions limits for POM with respect to coal-fired area source boilers to satisfy CAA section 112(c)(6).

To further address POM and mercury emissions, this rule also includes an energy assessment provision that encourages modifications to the facility to reduce energy demand that lead to these emissions.

VII. Summary of the Impacts of This Final Rule

A. What are the air impacts?

Table 3 of this preamble illustrates, for each subcategory, the estimated emissions reductions achieved by this rule (i.e., the difference in emissions between an area source boiler controlled to the MACT/GACT level of control and boilers at the current baseline) for new and existing sources. Nationwide emissions of total HAP (HCl, hydrogen fluoride, non-mercury metals, mercury, and VOC (for organic HAP) will be reduced by about 667 tpy for existing units and 74 tpy for new units. Emissions of mercury will be reduced by about 88 pounds per year for existing units and by about 9 pounds per year for new units. Emissions of filterable PM will be reduced by about 2,300 tpy for existing units and 280 tpy for new units. Emissions of non-mercury metals (i.e., antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium) will be reduced by about 280 tpy for existing units and will be reduced by 40 tpy for new units. Additionally, EPA has estimated that conducting an biennial tune-up will likely reduce emissions of organic HAP as a result of improved combustion and reduced fuel use. POM reductions are represented by 7–PAH, a group of polycyclic aromatic hydrocarbons. EPA estimates that the work practices, management practices, and CO emission limits may reduce emissions of 7–PAH by 8 tpy for existing units and by 1 tpy for new units. A discussion of the methodology used to estimate baseline emissions and emissions reductions is presented in "Estimation of Impacts for Industrial, Commercial, and Institutional Boilers Area Source NESHAP" in the docket.

TABLE 3—SUMMARY OF HAP EMISSIONS REDUCTIONS FOR EXISTING AND NEW SOURCES (TPY)

Source	Subcategory	PM	Non mercury metals[a]	Mercury	POM[b]
Existing Units	Coal	1,092	4	0.003	0.2
	Biomass	815	11	0.003	5
	Oil	349	269	0.04	3
New Units	Coal	7	0.03	0.0001	0.02
	Biomass	121	2	0.0002	0.5
	Oil	149	36	0.004	0.5

[a] Includes antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium.
[b] POM is represented by total emissions of polycyclic aromatic hydrocarbons (7–PAH). It is assumed that compliance with work practice standard and management practice will reduce fuel usage by 1 percent, which may reduce emissions of 7–PAH by an equivalent amount.

B. What are the cost impacts?

To estimate the national cost impacts of this rule for existing sources, EPA developed several model boilers and determined the cost of control for these model boilers. EPA assigned a model boiler to each existing unit based on the fuel, size, and current controls. The analysis considered all air pollution control equipment currently in operation at existing boilers. Model costs were then assigned to all existing units that could not otherwise meet the proposed standards. The resulting total national cost impact of this rule for existing units is $487 million dollars in total annualized costs. The total annualized costs (new and existing) for installing controls, conducting biennial tune-ups and an energy assessment, and implementing testing and monitoring requirements is $535 million. Table 4 of this preamble shows the total annualized cost impacts for each subcategory.

TABLE 4—SUMMARY OF ANNUAL COSTS FOR NEW AND EXISTING SOURCES

Source	Subcategory	Estimated/ projected No. of affected units	Total annualized cost (TAC) (10^6/yr)[a]
Existing Units	Coal	3,710	37
	Biomass	10,958	24
	Oil	168,003	374
Facility Energy Assessment	All	.....	52
New Units[b]	Coal	155	0.4
	Biomass	200	2.6
	Oil	6,424	45

[a] TAC does not include fuel savings from improving combustion efficiency.
[b] Impacts for new units assume the number of units online in the first 3 years of this rule (2010 to 2013).

Using Department of Energy projections on fuel expenditures, as well as the history of installation dates of area source boilers in the dataset, the number of additional boilers that could be potentially constructed was estimated. The resulting total national cost impact of this proposed rule on new sources by the third year, 2013, is $48 million dollars in total annualized costs. When accounting for a 1 percent fuel savings resulting from improvements to combustion efficiency, the total national cost impact on new sources is −$3.6 million.

A discussion of the methodology used to estimate cost impacts is presented in the memorandum, "Estimation of Impacts for Industrial, Commercial, and Institutional Boilers Area Source NESHAP" in the Docket.

C. What are the economic impacts?

The economic impact analysis (EIA) that is included in the RIA shows that the expected prices for industrial sectors could be 0.01 percent higher and

domestic production may fall by less than 0.01 percent. Because of higher domestic prices, imports may rise by less than 0.01 percent. Energy prices will not be affected.

Social costs are estimated to be also $0.49 billion in 2008 dollars. This is estimated to made up of a $0.24 billion loss in domestic consumer surplus, a $0.25 billion loss in domestic producer surplus, a $0.004 billion increase in rest of the world surplus, and a $0.003 billion net loss associated with new source costs and fuel savings not modeled in a way that can be used to attribute it to consumers and producers.

EPA performed a screening analysis for impacts on small entities by comparing compliance costs to sales/revenues (e.g., sales and revenue tests). EPA's analysis found the tests were typically higher for small entities included in the screening analysis. EPA has prepared an Initial Regulatory Flexibility Analysis (IRFA) that discusses alternative regulatory or policy options that minimize this final rule's small entity impacts. It includes key information about key results from the Small Business Advocacy Review (SBAR) panel. The IRFA is discussed in section 5.2 of the report "Regulatory Impact Analysis: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heater" located in the docket. EPA has also prepared A Final Regulatory Flexibility Analysis (FRFA) that is found in section 5 of the RIA.

In addition to estimating this rule's social costs and benefits, EPA has estimated the employment impacts of the final rule. We expect that the rule's direct impact on employment will be small. We have not quantified the rule's indirect or induced impacts. For further explanation and discussion of our analysis, see Chapter 4 of the RIA.

D. What are the benefits?

The benefit categories associated with the emission reduction anticipated for this rule can be broadly categorized as those benefits attributable to reduced exposure to hazardous air pollutants (HAPs) and those attributable to exposure to other pollutants. Because we were unable to monetize the benefits associated with reducing HAPs, all monetized benefits reflect improvements in ambient $PM_{2.5}$ and ozone concentrations. This results in an underestimate of the total monetized benefits. We estimated the total monetized benefits of this final regulatory action to be $210 million to $520 million (2008$, 3 percent discount rate) in the implementation year (2014). The monetized benefits at a 7 percent discount rate are $190 million to $470 million (2008$). Using alternate relationships between $PM_{2.5}$ and premature mortality supplied by experts, higher and lower benefits estimates are plausible, but most of the expert-based estimates fall between these two estimates.[8] A summary of the monetized benefits estimates at discount rates of 3 percent and 7 percent are provided in Table 6 of this preamble. A summary of the avoided health benefits are provided in Table 7 of this preamble.

TABLE 6—SUMMARY OF THE MONETIZED BENEFITS ESTIMATES FOR THE FINAL BOILER AREA SOURCE RULE

[Millions of 2008$] [1]

Pollutant	Emissions reductions (tons)	Total monetized benefits (at 3% discount rate)	Total monetized benefits (at 7% discount rate)
Direct $PM_{2.5}$	678	$79 to $190	$72 to $180
SO_2	3,197	130 to 320	120 to 290
Total		210 to 520	190 to 470

[1] All estimates are for the implementation year (2014), and are rounded to two significant figures so numbers may not sum across rows. All fine particles are assumed to have equivalent health effects. Benefits from reducing HAP are not included. These estimates do not include energy disbenefits valued at less than $1 million. These benefits reflect existing boilers and 6,779 new boilers anticipated to come online by 2014.

TABLE 7—SUMMARY OF THE AVOIDED HEALTH INCIDENCES FOR THE FINAL BOILER MACT

	Avoided health incidences
Avoided Premature Mortality	24 to 61
Avoided Morbidity:	
Chronic Bronchitis	17
Acute Myocardial Infarction	40
Hospital Admissions, Respiratory	6
Hospital Admissions, Cardiovascular	13
Emergency Room Visits, Respiratory	21
Acute Bronchitis	38
Work Loss Days	3,200
Asthma Exacerbation	420
Minor Restricted Activity Days	19,000
Lower Respiratory Symptoms	460
Upper Respiratory Symptoms	350

Note: All estimates are for the implementation year (2014), and are rounded to two significant figures and whole numbers. All fine particles are assumed to have equivalent health effects. Benefits from reducing HAP are not included. These benefits reflect existing boilers and 6,779 new boilers anticipated to come online by 2014.

[8] Roman *et al.*, 2008. Expert Judgment Assessment of the Mortality Impact of Changes in Ambient Fine Particulate Matter in the U.S. Environ. Sci. Technol., 42, 7, 2268—2274.

These quantified benefits estimates represent the human health benefits associated with reducing exposure to $PM_{2.5}$. The PM reductions are the result of emission limits on PM as well as emission limits on other pollutants, including HAP. To estimate the human health benefits, we used the environmental Benefits Mapping and Analysis Program (BenMAP) model to quantify the changes in $PM_{2.5}$-related health impacts and monetized benefits based on changes in air quality. This approach is consistent with the recently proposed Transport Rule RIA.[9]

For this final rule, we have expanded and updated the analysis since the proposal in several important ways. Using the Comprehensive Air Quality Model with extensions (CAMx) model, we are able to provide boiler sector-specific air quality impacts attributable to the emission reductions anticipated from this final rule. We believe that this modeling provides estimates that are more appropriate for characterizing the health impacts and monetized benefits from boilers than the generic benefit-per-ton estimates used for the proposal analysis.

To generate the boiler sector-specific benefit-per-ton estimates, we used CAMx to convert emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors into changes in ambient $PM_{2.5}$ levels and BenMAP to estimate the changes in human health associated with that change in air quality. Finally, the monetized health benefits were divided by the emission reductions to create the boiler sector-specific benefit-per-ton estimates. These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type. Directly emitted $PM_{2.5}$ and SO_2 are the dominant $PM_{2.5}$ precursors affected by this rule. Even though we assume that all fine particles have equivalent health effects, the benefit-per-ton estimates vary between precursors because each ton of precursor reduced has a different propensity to form $PM_{2.5}$. For example, SO_2 has a lower benefit-per-ton estimate than direct $PM_{2.5}$ because it does not directly transform into $PM_{2.5}$, and because sulfate particles formed from SO_2 emissions can transport many miles, including over areas with low populations. Direct $PM_{2.5}$ emissions convert directly into ambient $PM_{2.5}$, thus, to the extent that emissions occur in population areas, exposures to direct $PM_{2.5}$ will tend to be higher, and monetized health benefits will be higher than for SO_2 emissions.

Furthermore, CAMx modeling allows us to model the reduced mercury deposition that would occur as a result of the estimated reductions of mercury emissions. Although we are unable to model mercury methylation and human consumption of mercury-contaminated fish, the mercury deposition maps provide an improved qualitative characterization of the mercury benefits associated with this final rulemaking.

For context, it is important to note that the magnitude of the PM benefits is largely driven by the concentration response function for premature mortality. Experts have advised EPA to consider a variety of assumptions, including estimates based on both empirical (epidemiological) studies and judgments elicited from scientific experts, to characterize the uncertainty in the relationship between $PM_{2.5}$ concentrations and premature mortality. For this rule, we cite two key empirical studies, one based on the American Cancer Society cohort study[10] and the extended Six Cities cohort study.[11] In the RIA for this rule, which is available in the docket, we also include benefits estimates derived from expert judgments and other assumptions.

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

Most of the estimated PM-related benefits in this rule would accrue to populations exposed to higher levels of $PM_{2.5}$. Using the Pope, *et al.*, (2002) study, 79 percent of the population is exposed at or above the LML of 7.5 $\mu g/m^3$. Using the Laden, *et al.*, (2006) study, 34 percent of the population is exposed above the LML of 10 $\mu g/m^3$. It is important to emphasize that we have high confidence in $PM_{2.5}$-related effects down to the lowest LML of the major cohort studies. This fact is important, because as we estimate PM-related mortality among populations exposed to levels of $PM_{2.5}$ that are successively lower, our confidence in the results diminishes. However, our analysis shows that the great majority of the impacts occur at higher exposures.

It should be emphasized that the monetized benefits estimates provided above do not include benefits from several important benefit categories, including reducing other air pollutants, ecosystem effects, and visibility impairment. The benefits from reducing other pollutants have not been monetized in this analysis, including reducing 1,100 tons of CO, 340 tons of HCl, 8 tons of HF, 90 pounds of mercury, and 320 tons of other metals each year. Specifically, we were unable to estimate the benefits associated with HAPs that would be reduced as a result of this rule due to data, resource, and methodology limitations. Challenges in quantifying the HAP benefits include a lack of exposure-response functions, uncertainties in emissions inventories and background levels, the difficulty of extrapolating risk estimates to low doses, and the challenges of tracking health progress for diseases with long latency periods. Although we do not have sufficient information or modeling available to provide monetized estimates for this rulemaking, we include a qualitative assessment of the health effects of these air pollutants in the RIA for this rule, which is available in the docket.

In addition, the monetized benefits estimates provided in Table 6 do not reflect the disbenefits associated with increased electricity usage from operation of the control devices. We estimate that the increases in emissions of CO_2 would have disbenefits valued at less than $1 million at a 3 percent discount rate (average). CO_2-related disbenefits were calculated using the social cost of carbon, which is discussed further in the RIA. However, these disbenefits do not change the rounded total monetized benefits. In the RIA, we also provide the monetized CO_2 disbenefits using discount rates of 5 percent (average), 2.5 percent (average), and 3 percent (95th percentile).

[9] U.S. Environmental Protection Agency, 2010. RIA for the Proposed Federal Transport Rule. Prepared by Office of Air and Radiation. June. Available on the Internet at *http://www.epa.gov/ttn/ecas/regdata/RIAs/proposaltrria_final.pdf.*

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

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

This analysis does not include the type of detailed uncertainty assessment found in the 2006 $PM_{2.5}$ NAAQS RIA or 2008 Ozone NAAQS RIA. However, the benefits analyses in these RIAs provide an indication of the sensitivity of our results to various assumptions, including the use of alternative concentration-response functions and the fraction of the population exposed to low $PM_{2.5}$ levels.

For more information on the benefits analysis, please refer to the RIA for this final rule that is available in the docket.

E. What are the water and solid waste impacts?

EPA estimated that no additional water usage would result from the MACT floor level of control or GACT requirement. The fabric filter, multiclone, or combustion control devices used to meet the standards of this rule do not require any water to operate, nor do they generate any wastewater.

EPA estimated the additional solid waste that would result from this rule to be 1,800 tpy for existing sources due to the dust and fly ash captured by mercury and PM control devices. The cost of handling the additional solid waste generated from existing sources is $75,700 per year. For new sources installed by 2013, the EPA estimated the additional solid waste that would result from this rule to be 540 tpy for new sources due to the dust and fly ash captured by mercury and PM control devices. The cost of handling the additional solid waste generated from new sources is $22,900 per year. 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 Area Source NESHAP" in the Docket.

F. What are the energy impacts?

EPA expects an increase of approximately 25 million kWh in national annual energy usage from existing sources as a result of this rule. The increase results from the electricity required to operate control devices installed to meet this rule, such as fabric filters. Additionally, for new sources installed by 2013, EPA expects an increase of approximately 8 million kWh in national annual energy usage in order to operate the control devices.

The Department of Energy has conducted energy assessments at selected manufacturing facilities and reports that facilities can reduce fuel/energy use by 10 to 15 percent by using best practices to increase their energy efficiency. Additionally, the EPA expects work practice standards, such as boiler tune-ups, and combustion controls such as new replacement burners, will improve the efficiency of boilers. EPA estimates existing area source facilities can save 20 trillion Btu of fuel each year. For new sources online by 2013, the EPA estimates 2.3 trillion BTU per year of fuel can be conserved. This fuel savings estimate includes only those fuel savings resulting from liquid and coal fuels and it is based on the assumption that the work practice standards will achieve 1 percent improvement in efficiency.

VIII. Statutory and Executive Order Review

A. Executive Order 12866 and 13563: Regulatory Planning and Review

Under section 3(f)(1) of Executive Order 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011), this action is an "economically significant regulatory action" because it is likely to have an annual effect on the economy of $100 million or more 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. Accordingly, EPA submitted this action to OMB for review under EO 12866 and any changes in response to OMB recommendations have been documented in the docket for this action.

In addition, EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is contained in the Regulatory Impact Analysis (RIA) report. For more information on the costs and benefits for this rule, see the following table.

SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE BOILER AREA SOURCE RULE IN 2014

[Millions of 2008$] [1]

	3% Discount rate	7% Discount rate
Final MACT/GACT Approach: Selected		
Total Monetized Benefits [2]	$210 to $520	$190 to $470
Total Social Costs [3]	$490	$490
Net Benefits	−$280 to $30	−$300 to −$20
Non-monetized Benefits	1,100 tons of carbon monoxide 340 tons of HCl 8 tons of HF 90 pounds of mercury 320 tons of other metals <1 gram of dioxins/furans (TEQ) Health effects from SO_2 exposure Ecosystem effects Visibility impairment	
Proposed MACT Approach: Alternative		
Total Monetized Benefits [2]	$200 to $490	$180 to $440
Total Social Costs [3]	$850	$850
Net Benefits	−$650 to −$360	−$670 to −$410
Non-monetized Benefits	1,100 tons of carbon monoxide 340 tons of HCl 8 tons of HF 90 pounds of mercury 320 tons of other metals	

SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE BOILER AREA SOURCE RULE IN 2014—Continued

[Millions of 2008$] [1]

	3% Discount rate	7% Discount rate
<1 gram of dioxins/furans (TEQ)		
Health effects from SO_2 exposure		
Ecosystem effects		
Visibility impairment		

[1] All estimates are for the implementation year (2014), and are rounded to two significant figures. These results include units anticipated to come online and the lowest cost disposal assumption.

[2] The total monetized benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors such as SO_2. It is important to note that the monetized benefits include many but not all health effects associated with $PM_{2.5}$ exposure. Benefits are shown as a range from Pope *et al.* (2002) to Laden *et al.* (2006). These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type. These estimates include energy disbenefits valued at less than $1 million.

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

B. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to 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 ICR document prepared by EPA has been assigned EPA ICR number 2253.01. The recordkeeping and reporting requirements in this rule are based on the information collection requirements in EPA's NESHAP General Provisions (40 CFR part 63, subpart A). The recordkeeping and reporting requirements in the General Provisions are mandatory pursuant to CAA section 114 (42 U.S.C. 7414). All information other than emissions data submitted to EPA pursuant to the information collection requirements for which a claim of confidentiality is made is safeguarded according to CAA section 114(c) and EPA's implementing regulations at 40 CFR part 2, subpart B.

This NESHAP would require applicable one-time notifications according to the NESHAP General Provisions. Facility owners or operators are required to include compliance certifications for the work practices and management practices in their Notifications of Compliance Status. Recordkeeping is required to demonstrate compliance with emission limits, work practices, management practices, monitoring, and applicability provisions. New affected facilities are required to comply with the requirements for startup, shutdown, and malfunction reports and to submit a compliance report if a deviation occurred during the semiannual reporting period.

When a malfunction occurs, sources must report them according to the applicable reporting requirements of this Subpart JJJJJJ. An affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions is available to a source if it can demonstrate that certain criteria and requirements are satisfied. The criteria ensure that the affirmative defense is available only where the event that causes an exceedance of the emission limit meets the narrow definition of malfunction in 40 CFR 63.2 (sudden, infrequent, not reasonably preventable and not caused by poor maintenance and or careless operation) and where the source took necessary actions to minimize emissions. In addition, the source must meet certain notification and reporting requirements. For example, the source must prepare a written root cause analysis and submit a written report to the Administrator documenting that it has met the conditions and requirements for assertion of the affirmative defense.

To provide the public with an estimate of the relative magnitude of the burden associated with an assertion of the affirmative defense position adopted by a source, EPA provides an administrative adjustment to this ICR that shows what the notification, recordkeeping and reporting requirements associated with the assertion of the affirmative defense might entail. EPA's estimate for the required notification, reports and records, including the root cause analysis, totals $3,141 and is based on the time and effort required of a source to review relevant data, interview plant employees, and document the events surrounding a malfunction that has caused an exceedance of an emission limit. The estimate also includes time to produce and retain the record and reports for submission to EPA. EPA provides this illustrative estimate of this burden because these costs are only incurred if there has been a violation and a source chooses to take advantage of the affirmative defense.

The annual monitoring, reporting, and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the standards) is estimated to be $407 million. This includes 2.7 million labor hours per year at a cost of $254 million and total non-labor capital costs of $153 million per year. This estimate includes initial and triennial performance tests, conducting and documenting an energy assessment, conducting and documenting a tune-up, semiannual excess emission reports, maintenance inspections, developing a monitoring plan, notifications, and recordkeeping. Monitoring, testing, tune-up and energy assessment costs were also included in the cost estimates presented in the control cost impacts estimates in Section VII.B of this preamble. The total burden for the federal government (averaged over the first 3 years after the effective date of the standard) is estimated to be 286,000 hours per year at a total labor cost of $13 million per year. Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR part 63 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.

C. Regulatory Flexibility Act, as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996

Pursuant to section 603 of the RFA, EPA prepared an initial regulatory flexibility analysis (IRFA) for the proposed rule and convened a Small Business Advocacy Review Panel to obtain advice and recommendations of representatives of the regulated small entities. A detailed discussion of the Panel's advice and recommendations is found in the final Panel Report (Docket ID No. EPA–HQ–OAR–2002–0058–0797). A summary of the Panel's recommendations is also presented in the preamble to the proposed rule at 75 FR 32044–32045 (June 4, 2010). In the proposed rule, EPA included provisions consistent with four of the Panel's recommendations. As required by section 604 of the RFA, we also prepared a final regulatory flexibility analysis (FRFA) the final rule.

The rule is intended to reduce emissions of HAP as required under section 112 of the CAA. Section II.A of this preamble describes the reasons that EPA is finalizing this action.

Many significant issues were raised during the public comment period, and EPA's responses to those comments are presented in section V of this preamble or in the response to comments document contained in the docket. Significant changes to the rule that resulted from the public comments are described in section IV of the final rule's preamble.

The primary comments on the IRFA were provided by SBA, with the remainder of the comments generally supporting SBA's comments. Those comments applicable to the proposal regarding area source boilers included the following: EPA should have adopted additional subcategories, including the following: Unit design type (*e.g.* fluidized bed, stoker, fuel cell, suspension burner), duty cycle, geographic location, boiler size, burner type (with and without low-NO_x burners), and hours of use (limited use); EPA should have minimized facility monitoring and reporting requirements; EPA should not have proposed the energy audit requirement; and EPA's proposed emissions standards are too stringent.

In response to the comments on the IRFA and other public comments, EPA made the following changes to the final rule. EPA is promulgating management practice standards requiring the implementation of a boiler tune-up program for area source boilers in the biomass and oil subcategories instead of the proposed CO emission limits. This change will significantly reduce the monitoring and testing costs for existing and new biomass-fired and oil-fired area source boilers. EPA also decreased monitoring and testing costs for coal-fired area source boilers by eliminating the CO CEMS requirement for boilers greater than 100 MMBtu/h. The final rule also includes work practice standards or management practice standards, instead of emission limits, for new area source boilers less than 10 MMBtu/h. Finally, EPA is finalizing emission limits that are less stringent than the proposed limits. The emission limit changes are largely due to the changes in data corrections and incorporation of new data into the floor calculations. Additional details on the changes discussed in this paragraph are included in sections IV and V of the final rule's preamble.

Table 5 of this preamble summarizes the EPA estimates of the number of area source facilities expected to be affected by the area source rule. EPA does not have sufficient information to estimate the number of small entities expected to be covered by the area source rule.

As discussed in section 5.1 of the RIA for this rule, using these cost data and the Census estimates of average establishment receipts, a substantial number of SUSB NAICS/enterprise categories have ratios over 3%. The following types of representative small area source public facilities would have cost-to-revenue ratios exceeding 1 percent but below 3 percent: Other public facilities (ratio >1.7 percent) and churches (ratio = 1.5 percent).

TABLE 5—ESTIMATED AFFECTED FACILITIES USING 13 STATE BOILER INSPECTOR INVENTORY: AREA SOURCES

SIC	Total number of affected facilities in SIC Code
01	0
02	247
07	0
09	0
14	83
16	0
17	247
20	5,733
23	83
24	2,676
26	0
40	329
41	0
42	83
43	0
44	0
45	0
47	0
48	741
50	165
51	247
52	0
53	494
54	0
55	801
56	0
57	0
58	905
59	288
60	329
64	0
65	2,878
70	4,893
72	2,138
73	165
75	1,606
76	0
79	1,151
80	15,293
81	0
82	33,303
83	0
84	165
86	3,330
87	666
91 to 98	5,098
Unknown	576

The information collection activities in this ICR include initial and triennial stack tests, fuel analyses, operating parameter monitoring, continuous oxygen monitoring for all coal-fired area source boilers greater than 10 MMBtu/h, certified energy assessments for area source facilities having a boiler greater than 10 MMBtu/h, biennial tune-ups, preparation of a startup, shutdown, malfunction plan (SSMP), preparation of a site-specific monitoring plan and a site-specific fuel monitoring plan, one-time and periodic reports, and the maintenance of records. Based on 13 states' inventories of boilers, there are an estimated 92,000 existing facilities with affected boilers. It is estimated that 53 percent are located in the private sector and the remaining 47 percent are located in the public sector. Of these, only about 0.3 percent of the area source facilities are subject to emission limits and the testing and monitoring requirements in the final rule. A table included in the FRFA summarizes the types and number of each type of small entities expected to be affected by the area source rule.

The Agency expects that persons with knowledge of .pdf software, spreadsheet and relational database programs will be

necessary in order to prepare the report or record. Based on experience with previous emission stack testing, we expect most facilities to contract out preparation of the reports associated with emission stack testing, including creation of the Electronic Reporting Tool submittal which will minimize the need for in depth knowledge of databases or spreadsheet software at the source. We also expect affected sources will need to work with web-based applicability tools and flowcharts to determine the requirements applicable to them, knowledge of the heat input capacity and fuel use of the combustion units at each facility will be necessary in order to develop the reports and determine initial applicability to the rule. Affected facilities will also need skills associated with vendor selection in order to identify service providers that can help them complete their compliance requirements, as necessary.

While EPA did make significant changes based on public comment, EPA is maintaining, but clarifying, the energy assessment requirement. Some changes to the energy assessment requirement that will reduce costs for small entities include a the following provisions: The energy assessment for facilities with affected boilers using less than 0.3 trillion Btu per year heat input will be one day in length maximum. The boiler system and energy use system accounting for at least 50 percent of the energy output will be evaluated to identify energy savings opportunities, within the limit of performing a one-day energy assessment; and the energy assessment for facilities with affected boilers using 0.3 to 1.0 trillion Btu per year will be 3 days in length maximum. The boiler system and any energy use system accounting for at least 33 percent of the energy output will be evaluated to identify energy savings opportunities, within the limit of performing a 3-day energy assessment. In addition, the final rule allows facilities to use a previously completed energy assessment to satisfy the energy assessment requirement.

As required by section 212 of SBREFA, EPA also is preparing a Small Entity Compliance Guide to help small entities comply with this rule. Small entities will be able to obtain a copy of the Small Entity Compliance guide at the following Web site: *http://www.epa.gov/ttn/atw/boiler/boilerpg.html.*

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 this final 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 Administrator publishes with this 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 proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

We have determined that this rule contains a Federal mandate that may result in expenditures of $100 million or more for state, local, and tribal governments, in the aggregate, or the private sector in any 1 year. Accordingly, we have prepared a written statement entitled "Unfunded Mandates Reform Act Analysis for the Boiler Area Source NESHAP" under section 202 of the UMRA which is summarized below.

1. Statutory Authority

As discussed in Section I of this preamble, the statutory authority for this rulemaking is CAA section 112. Title III of the CAA 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 requires us to establish NESHAP for both major and area sources of HAP that are listed for regulation under CAA section 112(c). CAA section 112(k)(3)(B) calls for EPA to identify at least 30 HAP which, as the result of emissions from area sources, pose the greatest threat to public health in the largest number of urban areas. CAA section 112(c)(3) requires EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the emissions of the 30 urban HAP are subject to regulation.

Under CAA section 112(d)(5), we may elect to promulgate standards or requirements for area sources based on GACT used by those sources to reduce emissions of HAP. Determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category. We also consider the standards applicable to major sources in the analogous source category and, as appropriate, the control technologies and management practices at area and major sources in similar categories, to determine if the standards, technologies, and/or practices are transferable and generally available to area sources. In determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.

While GACT may be a basis for standards for most types of HAP emitted from area source, CAA section 112(c)(6) requires that source categories accounting for emissions of the HAP listed in CAA section 112(c)(6) be subject to standards under CAA section 112(d)(2) for the listed pollutants. Thus, CAA section 112(c)(6) requires that emissions of each listed HAP for the listed categories be subject to MACT regulation. The CAA section 112(c)(6) list of source categories includes industrial boilers and institutional/commercial boilers. Within these two source categories, coal combustion, oil combustion, and wood combustion have been on the CAA section 112(c)(6) list because of emissions of mercury and POM. We currently believe that regulation of coal-fired boilers will ensure that we fulfill our obligation under CAA section 112(c)(6) with respect to mercury and POM reductions. Consequently, we deem it reasonable to regulate the coal-fired boilers under MACT, rather than the biomass and oil-fired boilers, to obtain additional mercury and POM reductions towards achieving the CAA section 112(c)(6)

obligation. We are regulating biomass-fired and oil-fired boilers under GACT.

This NESHAP will apply to all existing and new industrial boilers, institutional boilers, and commercial boilers located at area sources. 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 emission limits for existing area source boilers are only applicable to area source boilers that have a designed heat input capacity of 10 MMBtu/h or greater. The regulatory alternative upon which the standards are based represents the MACT floor for the listed CAA section 112(c)(6) pollutants (mercury and POM) for coal-fired units and GACT for the other urban HAP which formed the basis for the listing of these two area source categories. The standards will require new coal-fired boilers to meet MACT-based emission limits for mercury and CO (as a surrogate for POM) and GACT-based emission limits for PM (as a surrogate for urban metals). New biomass and oil-fired boilers will be required to meet GACT for CO, which are tune-ups, and GACT-based emission limits for PM. Existing large coal-fired boilers will be required to meet MACT-based emission limits for mercury and CO for coal-fired units, and existing large biomass and oil-fired boilers will be subject to GACT, which is a tune-up. As allowed under CAA section 112(h), a work practice standard requiring the implementation of a tune-up program is being established for existing and new area source boilers with a designed heat input capacity of less than 10 MMBtu/h. An additional "beyond-the-floor" standard is being established for existing area source facilities having an affected boiler with a heat input capacity of 10 MMBtu/h or greater that requires the performance of an energy assessment on the boiler and the facility to identify cost-effective energy conservation measures.

2. Social Costs and Benefits

The regulatory impact analysis prepared for this final rule including the Agency's assessment of costs and benefits, is detailed in the "Regulatory Impact Analysis: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" in the docket. Based on estimated compliance costs associated with this final rule and the predicted change in prices and production in the affected industries, the estimated social costs of this final rule are $0.49 billion (2008 dollars).

It is estimated that 3 years after implementation of this final rule, HAP will be reduced by hundreds of tons, including reductions in metallic HAP including mercury, hydrochloric acid, hydrogen fluoride, and several other organic HAP from area source boilers. Studies have determined a relationship between exposure to these HAP and the onset of cancer; however, the Agency is unable to provide a monetized estimate of the HAP benefits at this time. In addition, there are reductions in $PM_{2.5}$ and in SO_2 that will occur, including 678 tons of $PM_{2.5}$ and 3,197 tons of SO_2. These reductions occur within 3 years after the implementation of the regulation and are expected to continue throughout the life of the affected sources. The major health effect associated with reducing $PM_{2.5}$ and $PM_{2.5}$ precursors (such as SO_2) is a reduction in premature mortality. Other health effects associated with $PM_{2.5}$ emission reductions include avoiding cases of chronic bronchitis, heart attacks, 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 $PM_{2.5}$ and SO_2 emissions reductions. For $SO_{2.5}$ and $PM_{2.5}$, 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 visibility effects). Our estimates of the monetized benefits in 2013 associated with the implementation of this final rule range from $0.21 billion (2008 dollars) to $0.52 billion (2008 dollars) when using a 3 percent discount rate (or from $0.19 billion (2008 dollars) to $0.47 billion (2008 dollars) when using a 7 percent discount rate. The general approach used to value benefits is discussed in more detail in Section VII.D of this preamble. For more detailed information on the benefits estimated for the rulemaking, refer to the RIA in the docket.

3. Future and Disproportionate Costs

The Unfunded Mandates Reform Act requires that we estimate, where accurate estimation is reasonably feasible, future compliance costs imposed by this final rule and any disproportionate budgetary effects. Our estimates of the future compliance costs of this final rule are discussed in Section VII.C of this preamble.

We do not believe that there will be any disproportionate budgetary effects of this final rule on any particular areas of the country, state or local governments, types of communities (e.g., urban, rural), or particular industry segments. See the results of the "Economic Impact Analysis of the Proposed Industrial Boilers and Process Heaters NESHAP," the results of which are discussed in Section VII.C of this preamble.

4. Effects on the National Economy

The Unfunded Mandates Reform Act requires that we estimate the effect of the proposed 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 this final rule is presented in the Economic Impact Analysis chapter (Section 4) of the RIA in the docket. This analysis provides estimates of the effect of this final rule on some of the categories mentioned above. The results of the economic impact analysis are summarized in Section VII.C of this preamble. The results show that there will be a small impact on prices and output (less than 0.01 percent). 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 small.

5. Consultation With Government Officials

The Unfunded Mandates Reform Act requires that we describe the extent of the Agency'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 proposal. Consistent with the intergovernmental consultation provisions of section 204 of the UMRA, EPA has initiated consultations with governmental entities affected by this rule. EPA invited the following 10 national organizations representing state and local elected officials to a meeting held on March 24, 2010 in Washington, DC: (1) National Governors Association; (2)

National Conference of State Legislatures, (3) Council of State Governments, (4) National League of Cities, (5) U.S. Conference of Mayors, (6) National Association of Counties, (7) International City/County Management Association, (8) National Association of Towns and Townships, (9) County Executives of America, and (10) Environmental Council of States. These 10 organizations of elected state and local officials have been identified by EPA as the "Big 10" organizations appropriate to contact for purpose of consultation with elected officials. The purposes of the consultation were to provide general background on the proposal, answer questions, and solicit input from state/local governments. During the meeting, officials expressed uncertainty with regard to how boilers owned/operated by state and local entities would be impacted, as well as with regard to the potential burden associated with implementing this final rule on state and local entities. To that end, officials requested and EPA provided (1) model boiler costs, (2) inventory of area source boilers (coal, oil, biomass only) for the 13 states for which we have an inventory, and (3) information on potential size of boilers used for various facility types and sizes. EPA has not received additional questions or requests from state or local officials.

Consistent with section 205, EPA identified and considered a reasonable number of regulatory alternatives. Because an initial screening analysis for impact on small entities indicated a likely significant impact for substantial numbers, EPA convened a SBAR Panel to obtain advice and recommendation of representatives of the small entities that potentially would be subject to the requirements of this final rule. As part of that process, EPA considered several options. Those options included establishing emission limits, establishing work practice standards, and establishing work practice standards and requiring an energy assessment. The regulatory alternative selected is a combination of the options considered and includes provisions regarding each of the SBAR Panel's recommendations for area source boilers. The recommendations regard the use of subcategories, work practice standards, and compliance costs (see section IX.C of this preamble for more detail on the RFA).

EPA determined subcategories based on boiler type to be appropriate because different types of units have different emission characteristics which may affect the feasibility and effectiveness of emission control. Thus, this final rule identifies three subcategories of area source boilers: (1) Boilers designed for coal firing, (2) boilers designed for biomass firing, and (3) boilers designed for oil firing.

The emission limits for existing and new area source boilers are only applicable to area source boilers that have a designed heat input capacity of 10 MMBtu/h or greater. A work practice standard (for mercury from coal-fired boilers and for POM from all boilers) or management practice (for all other HAP, including mercury from biomass-fired and oil-fired boilers) requiring the implementation of a tune-up program is being established for existing area source boilers with a designed heat input capacity of less than 10 MMBtu/h. The regulatory alternative upon which the standards are based represents the MACT floor for mercury and POM (CO is used as a surrogate for POM) for coal-fired boilers, and GACT for the other urban HAP (PM is used as a surrogate for urban HAP metals and CO is used as a surrogate for urban organic pollutants) for new coal, biomass, and oil-fired boilers. An additional "beyond-the-floor" standard is being established for existing area source facilities having an affected boiler with a heat input capacity of 10 MMBtu/h or greater that requires the performance of an energy assessment on the boiler and the facility to identify cost-effective energy conservation measures.

The use of surrogate pollutants will result in reduced compliance costs because testing is only required for the surrogate pollutants (*i.e.*, CO and PM) versus for the HAP (i.e., POM and metals). The work practice standard/management practice also will result in reduced compliance costs with respect to monitoring/testing for the smaller existing area source boilers. EPA's exemption of area source facilities from title V permit requirements also will reduce burden on area source boiler facilities.

This rule is not subject to the requirements of section 203 of the UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. While some small governments may have boilers that will be affected by this final rule, EPA's analysis shows that other public facilities that are located at area source facilities owned by small entities will not have cost-to-revenue ratios exceeding 10 percent. Hospitals' and schools' revenue tests fall below 1 percent. Because this final rule's requirements apply equally to boilers owned and/or operated by governments and to boilers owned and/or operated by private entities, there will be no requirements that uniquely apply to such governments or impose any disproportionate impacts on them.

E. Executive Order 13132: Federalism

Under Executive Order 13132, EPA may not issue an action 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 action.

EPA has concluded that this action may have federalism implications, because it may impose substantial direct compliance costs on state or local governments, and the federal government will not provide the funds necessary to pay those costs. Accordingly, EPA provides the following federalism summary impact statement as required by section 6(b) of Executive Order 13132.

Based on the estimates in EPA's RIA for today's action, the regulatory option may have federalism implications because the action may impose approximately $276 million in annual direct compliance costs on an estimated 57,000 state or local governments. Boiler inventories for the health services, educational services, and government-owned buildings sectors from 13 States were used to estimate the nationwide number of potentially impacted state or local governments. Because the inventories for these sectors include privately owned and federal government owned facilities, the estimate may include many facilities that are not state or local government owned. Table 8 of this preamble presents estimates of the number of potentially impacted state and local governments and their potential annual compliance costs for each of the three sectors. In addition to an estimate of the total number of potentially impacted facilities, estimates for facilities with small boilers and for facilities with large boilers are presented. Small boilers (boilers with heat input capacity of less than 10 MMBtu/h) will be subject to a work practice standard or management practice that requires a boiler tune-up every 2 years. Large coal-fired boilers (boilers with heat input capacity of 10 MMBtu/h or greater) will be subject to emission limits for mercury and CO. Large biomass and oil-fired boilers will be subject to a biennial boiler tune-up requirement for CO. All facilities with

large boilers will be required to conduct a one-time energy assessment.

TABLE 8—STATE AND LOCAL GOVERNMENTS POTENTIALLY IMPACTED BY THE STANDARDS FOR BOILERS AT AREA SOURCE FACILITIES

Sector	Number of potentially impacted facilities			Annual compliance costs to meet standards ($)
	Total	Small	Large	
Health Services	17,206	15,293	1,913	$84 million.
Educational Services	34,052	33,303	749	159 million.
Government-Owned Buildings	5,796	5,098	698	33 million.
Total	57,054	53,694	3,360	276 million.

EPA consulted with state and local officials in the process of developing the action to permit them to have meaningful and timely input into its development. EPA met with 10 national organizations representing state and local elected officials to provide general background on the proposed rule, answer questions, and solicit input from state/local governments. The UMRA discussion in Section IX.D of this preamble includes a description of the consultation. As required by section 8(a) of Executive Order 13132, EPA included a certification from its Federalism Official stating that EPA had met the Executive Order's requirements in a meaningful and timely manner, when it sent the draft of this final action to OMB for review pursuant to Executive Order 12866. A copy of this certification has been included in the public version of the official record for this final action.

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

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). This final rule imposes requirements on owners and operators of specified area sources and not tribal governments. We do not know of any industrial, commercial, or institutional boilers owned or operated by Indian tribal governments. However, if there are any, the effect of this final rule 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 this action.

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

This action is not subject to Executive Order 13045 because the Agency does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children. In addition, this action is not subject to Executive Order 13045 because this final rule is based solely on technology performance.

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

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. We estimate no significant changes for the energy sector for price, production, or imports. For more information on the estimated energy effects, please refer to Section VI of this preamble. The analysis is available in the public docket.

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

This final rule involves technical standards. EPA cites the following standards in this final rule: EPA Methods 1, 2, 2F, 2G, 3A, 3B, 4, 5, 5D, 10, 10A, 10B, 17, 19, 29 of 40 CFR part 60; 101A of 40 CFR part 61; and voluntary consensus standards: American Society of Mechanical Engineers (ASME) PTC 19 (manual methods only), American Society for Testing and Materials (ASTM) D6522–00, ASTM D6784–02, ASTM D2234/D2234M–10, ASTM D6323–98, ASTM D2013–04, ASTM D5198–92, ASTM D5865–04, ASTM E711–87, ASTM D3173–03, ASTM E871–82, and ASTM D6722–01.

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 as alternatives for EPA Methods 2F, 2G, 5D, and 19. The search and review results are in the docket for this rule.

The search for emissions measurement procedures identified 16 other voluntary consensus standards. EPA determined that these 16 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 did not adopt these standards for this purpose. The reasons for the determinations for the 16 methods can be found in the docket to this rule.

Table 4 to subpart JJJJJJ of this rule lists the testing methods included in the regulation. Under 40 CFR 63.7(f) and 63.8(f) 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 required testing methods, performance specifications, or procedures.

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

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

This action establishes national emission standards for industrial, commercial, and institutional boilers that are area sources. The industrial boiler source category includes boilers used in manufacturing, processing, mining, refining, or any other industry. The commercial boiler source category includes boilers used in commercial establishments such as stores/malls, laundries, apartments, restaurants, theatres, and hotels/motels. The institutional boiler source category includes boilers used in medical centers (*e.g.*, hospitals, clinics, nursing homes), educational and religious facilities (*e.g.*, schools, universities, places of worship), and municipal buildings (*e.g.*, courthouses, arts centers, prisons). There are approximately 92,000 facilities affected by this final rule, most of which are small entities. By the defined nature of the category, many of these sources are located in close proximity to residential areas, commercial centers, and other locations where large numbers of people live and work.

Due to the large number of these sources, their nation-wide dispersal, and the absence of site specific coordinates, EPA is unable to examine the distributions of exposures and health risks attributable to these sources among different socio-demographic groups for this rule, or to relate the locations of expected emission reductions to the locations of current poor air quality. However, this final rule is anticipated to have substantial emissions reductions of toxic air pollutants (*see* Table 2 of this preamble), some of which are potential carcinogens, neurotoxins, and respiratory irritants. This final rule will also result in reductions in criteria pollutants such as CO, PM, SO_2, as well as ozone precursors.

Because of the close proximity of these source categories to people, the substantial emission reductions of air toxics resulting from the implementation of this rule is anticipated to have health benefits for all persons living or going near these types of sources. (Please refer to the RIA for this rulemaking, which is available in the docket.) For example, there will be reductions of mercury emissions which will reduce potential exposures due to the atmospheric deposition of mercury for populations such as subsistence fisherman. In addition, there will be reductions in other air toxics which can cause adverse health effects such as ozone precursors that contribute to "smog." EPA has determined that this rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority, low-income, or tribal populations.

EPA defines "Environmental Justice" to include meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and polices. To promote meaningful involvement, EPA has developed an EJ communication strategy to ensure that interested communities have access to this rule, are aware of its content, and have an opportunity to comment. In addition, state and federal permitting requirements will provide state and local governments and communities the opportunity to provide their comments on the permit conditions associated with permitting these sources.

K. 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 this final rule must submit a rule report, which includes a copy of this final rule, to each House of the Congress and to the Comptroller General of the United States. 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 this 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. 804(2). This rule will be effective May 20, 2011.

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: February 21, 2011.

Lisa P. Jackson,

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:
■ a. Revising paragraphs (b)(27), (b)(35), (b)(39) through (44), (b)(47) through (52), (b)(57), (b)(61), (b)(64), and (i)(1).
■ b. Removing and reserving paragraphs (b)(45), (b)(46), (b)(55), (b)(56), (b)(58) through (60), and (b)(62).
■ c. Adding paragraphs (b)(66) through (68).
■ d. Adding paragraphs (p) and (q).

§ 63.14 Incorporation 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, IBR approved for § 63.9307(c)(2).

* * * * *

(35) ASTM D6784–02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008, IBR approved for table 1 to subpart DDDDD of this part, table 2 to subpart DDDDD of this part, table 5 to subpart DDDDD, table 12 to subpart DDDDD of this part, and table 4 to subpart JJJJJJ of this part.

* * * * *

(39) ASTM Method D388–05, Standard Classification of Coals by Rank, approved September 15, 2005, IBR approved for § 63.7575 and § 63.11237.

(40) ASTM D396–10 Standard Specification for Fuel Oils, approved October 1, 2010, IBR approved for § 63.7575.

(41) ASTM Method D1835–05, Standard Specification for Liquefied Petroleum (LP) Gases, approved April 1, 2005, IBR approved for § 63.7575 and § 63.11237.

(42) ASTM D2013/D2013M–09 Standard Practice for Preparing Coal Samples for Analysis, approved November 1, 2009, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(43) ASTM D2234/D2234M–10 Standard Practice for Collection of a Gross Sample of Coal, approved January 1, 2010, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(44) ASTM D3173–03 (Reapproved 2008) Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, approved February 1, 2008, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

* * * * *

(47) ASTM D5198–09 Standard Practice for Nitric Acid Digestion of Solid Waste, approved February 1, 2009, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(48) ASTM D5865–10a Standard Test Method for Gross Calorific Value of Coal and Coke, approved May 1, 2010, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(49) ASTM D6323–98 (Reapproved 2003), Standard Guide for Laboratory Subsampling of Media Related to Waste Management Activities, approved August 10, 2003, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(50) ASTM E711–87 (Reapproved 2004) Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter, approved August 28, 1987, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(51) ASTM E776–87 (Reapproved 2009) Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel, approved July 1, 2009, IBR approved for table 6 to subpart DDDDD of this part.

(52) ASTM E871–82 (Reapproved 2006) Standard Test Method for Moisture Analysis of Particulate Wood Fuels, approved November 1, 2006, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

* * * * *

(57) ASTM D6721–01 (Reapproved 2006) Standard Test Method for Determination of Chlorine in Coal by Oxidative Hydrolysis Microcoulometry, approved April 1, 2006, IBR approved for table 6 to subpart DDDDD of this part.

* * * * *

(61) ASTM D6722–01 (Reapproved 2006) Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by the Direct Combustion Analysis, approved April 1, 2006, IBR approved for Table 6 to subpart DDDDD and Table 5 to subpart JJJJJJ of this part.

* * * * *

(64) ASTM D6522–00 (Reapproved 2005), Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, approved October 1, 2005, IBR approved for table 4 to subpart ZZZZ of this part, table 5 to subpart DDDDD of this part, and table 4 to subpart JJJJJJ of this part.

* * * * *

(66) ASTM D4084–07 Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), approved June 1, 2007, IBR approved for table 6 to subpart DDDDD of this part.

(67) ASTM D5954–98 (Reapproved 2006), Test Method for Mercury Sampling and Measurement in Natural Gas by Atomic Absorption Spectroscopy, approved December 1, 2006, IBR approved for table 6 to subpart DDDDD of this part.

(68) ASTM D6350–98 (Reapproved 2003) Standard Test Method for Mercury Sampling and Analysis in Natural Gas by Atomic Fluorescence Spectroscopy, approved May 10, 2003, IBR approved for table 6 to subpart DDDDD of this part.

(i) * * *

(1) ANSI/ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]," IBR approved for §§ 63.309(k)(1)(iii), 63.865(b), 63.3166(a)(3), 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), 63.11148(e)(3)(iii), 63.11155(e)(3), 63.11162(f)(3)(iii) and (f)(4), 63.11163(g)(1)(iii) and (g)(2), 63.11410(j)(1)(iii), 63.11551(a)(2)(i)(C), table 5 to subpart DDDDD of this part, table 1 to subpart ZZZZZ of this part, and table 4 to subpart JJJJJJ of this part.

* * * * *

(p) The following material is available from the U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272–0167, *http://www.epa.gov.*

(1) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants—Background Information for Proposed Standards, Final Report, EPA–453/R–01–005, January 2001, IBR approved for § 63.7491(g).

(2) Office Of Air Quality Planning And Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, EPA–454/R–98–015, September 1997, IBR approved for § 63.7525(j)(2) and § 63.11224(f)(2).

(3) SW–846–3020A, Acid Digestion of Aqueous Samples And Extracts For Total Metals For Analysis By GFAA Spectroscopy, Revision 1, July 1992, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(4) SW–846–3050B, Acid Digestion of Sediments, Sludges, And Soils, Revision 2, December 1996, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(5) SW–846–7470A, Mercury In Liquid Waste (Manual Cold-Vapor Technique), Revision 1, September 1994, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(6) SW–846–7471B, Mercury In Solid Or Semisolid Waste (Manual Cold-Vapor Technique), Revision 2, February 2007, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part and table 5 to subpart JJJJJJ of this part.

(7) SW–846–9250, Chloride (Colorimetric, Automated Ferricyanide AAI), Revision 0, September 1986, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD of this part.

(q) The following material is available for purchase from the International

Standards Organization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, +41 22 749 01 11, *http://www.iso.org/iso/home.htm*.

(1) ISO 6978-1:2003(E), Natural Gas—Determination of Mercury—Part 1: Sampling of Mercury by Chemisorption on Iodine, First edition, October 15, 2003, IBR approved for table 6 to subpart DDDDD of this part.

(2) ISO 6978-2:2003(E), Natural gas—Determination of Mercury—Part 2: Sampling of Mercury by Amalgamation on Gold/Platinum Alloy, First edition, October 15, 2003, IBR approved for table 6 to subpart DDDDD of this part.

■ 3. Part 63 is amended by adding subpart JJJJJJ to read as follows:

Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

Sec.

What This Subpart Covers

63.11193 Am I subject to this subpart?
63.11194 What is the affected source of this subpart?
63.11195 Are any boilers not subject to this subpart?
63.11196 What are my compliance dates?

Emission Limits, Work Practice Standards, Emission Reduction Measures, and Management Practices

63.11200 What are the subcategories of boilers?
63.11201 What standards must I meet?

General Compliance Requirements

63.11205 What are my general requirements for complying with this subpart?

Initial Compliance Requirements

63.11210 What are my initial compliance requirements and by what date must I conduct them?
63.11211 How do I demonstrate initial compliance with the emission limits?
63.11212 What stack tests and procedures must I use for the performance tests?
63.11213 What fuel analyses and procedures must I use for the performance tests?
63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

Continuous Compliance Requirements

63.11220 When must I conduct subsequent performance tests?
63.11221 How do I monitor and collect data to demonstrate continuous compliance?
63.11222 How do I demonstrate continuous compliance with the emission limits?
63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?
63.11224 What are my monitoring, installation, operation, and maintenance requirements?
63.11225 What are my notification, reporting, and recordkeeping requirements?
63.11226 How can I assert an affirmative defense if I exceed an emission limit during a malfunction?

Other Requirements and Information

63.11235 What parts of the General Provisions apply to me?
63.11236 Who implements and enforces this subpart?
63.11237 What definitions apply to this subpart?
Table 1 to Subpart JJJJJJ of Part 63—Emission Limits
Table 2 to Subpart JJJJJJ of Part 63—Work Practice Standards
Table 3 to Subpart JJJJJJ of Part 63—Operating Limits for Boilers With Emission Limits
Table 4 to Subpart JJJJJJ of Part 63—Performance (Stack) Testing Requirements
Table 5 to Subpart JJJJJJ of Part 63—Fuel Analysis Requirements
Table 6 to Subpart JJJJJJ of Part 63 — Establishing Operating Limit
Table 7 to Subpart JJJJJJ of Part 63—Demonstrating Continuous Compliance
Table 8 to Subpart JJJJJJ of Part 63—Applicability of General Provisions to Subpart JJJJJJ

Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

What This Subpart Covers

§ 63.11193 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in § 63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in § 63.2, except as specified in § 63.11195.

§ 63.11194 What is the affected source of this subpart?

(a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section.

(1) The affected source is the collection of all existing industrial, commercial, and institutional boilers within a subcategory (coal, biomass, oil), as listed in § 63.11200 and defined in § 63.11237, located at an area source.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in § 63.11200 and as defined in § 63.11237, located at an area source.

(b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010.

(c) An affected source is a new source if you commenced construction or reconstruction of the affected source after June 4, 2010 and you meet the applicability criteria at the time you commence construction.

(d) A boiler is a new affected source if you commenced fuel switching from natural gas to solid fossil fuel, biomass, or liquid fuel after June 4, 2010.

(e) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or part 71 as a result of this subpart. You may, however, be required to obtain a title V permit due to another reason or reasons. *See* 40 CFR 70.3(a) and (b) or 71.3(a) and (b). Notwithstanding the exemption from title V permitting for area sources under this subpart, you must continue to comply with the provisions of this subpart.

§ 63.11195 Are any boilers not subject to this subpart?

The types of boilers listed in paragraphs (a) through (g) of this section are not subject to this subpart and to any requirements in this subpart.

(a) Any boiler specifically listed as, or included in the definition of, an affected source in another standard(s) under this part.

(b) Any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act.

(c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers).

(d) A boiler that is used specifically for research and development. This exemption does not include boilers that solely or primarily provide steam (or heat) to a process or for heating at a research and development facility. This exemption does not prohibit the use of the steam (or heat) generated from the boiler during research and development, however, the boiler must be concurrently and primarily engaged in research and development for the exemption to apply.

(e) A gas-fired boiler as defined in this subpart.

(f) A hot water heater as defined in this subpart.

(g) Any boiler that is used as a control device to comply with another subpart of this part, provided that at least 50 percent of the heat input to the boiler is provided by the gas stream that is regulated under another subpart.

§ 63.11196 What are my compliance dates?

(a) If you own or operate an existing affected boiler, you must achieve

compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.

(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management standard no later than March 21, 2012.

(2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.

(3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.

(b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011.

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in § 63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch.

Emission Limits, Work Practice Standards, Emission Reduction Measures, and Management Practices

§ 63.11200 What are the subcategories of boilers?

The subcategories of boilers are coal, biomass, and oil. Each subcategory is defined in § 63.11237.

§ 63.11201 What standards must I meet?

(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets the requirements in Table 2 to this subpart satisfies the energy assessment portion of this requirement.

(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.

(d) These standards apply at all times.

General Compliance Requirements

§ 63.11205 What are my general requirements for complying with this subpart?

(a) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(b) You can demonstrate compliance with any applicable mercury emission limit using fuel analysis if the emission rate calculated according to § 63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of continuous parameter monitoring system), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or continuous parameter monitoring system. 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 required in this section (including CEMS, COMS, or continuous parameter monitoring system), you must develop, and submit to the delegated authority for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site specific monitoring plan does not apply to affected sources with existing monitoring plans that apply to CEMS and COMS prepared under Appendix B to part 60 of this chapter and which meet the requirements of § 63.11224.

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

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

(iii) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i).

(2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

Initial Compliance Requirements

§ 63.11210 What are my initial compliance requirements and by what date must I conduct them?

(a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to § 63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to § 63.11213 and Table 5 to this subpart.

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance no later than 180 days after the compliance date that is specified in § 63.11196 and according to the applicable provisions in § 63.7(a)(2).

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in § 63.11196 and according to the applicable provisions in § 63.7(a)(2).

(d) For new or reconstructed affected sources, you must demonstrate initial

compliance no later than 180 calendar days after March 21, 2011 or within 180 calendar days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(e) For affected boilers that ceased burning solid waste consistent with § 63.11196(d), you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations before you commence or recommence combustion of solid waste.

§ 63.11211 How do I demonstrate initial compliance with the emission limits?

(a) For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to § 63.11212 and Table 4 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler according to § 63.11213 and Table 5 to this subpart, establishing operating limits according to § 63.11222, Table 6 to this subpart and paragraph (b) of this section, as applicable, and conducting continuous monitoring system (CMS) performance evaluations according to § 63.11224. For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under § 63.11213 and Table 5 to this subpart.

(b) You must establish parameter operating limits according to paragraphs (b)(1) through (4) of this section.

(1) For a wet scrubber, you must establish the minimum liquid flowrate and pressure drop as defined in § 63.11237, as your operating limits during the three-run performance stack test. If you use a wet scrubber and you conduct separate performance stack tests for particulate matter and mercury emissions, you must establish one set of minimum scrubber liquid flowrate and pressure drop operating limits. If you conduct multiple performance stack tests, you must set the minimum liquid flowrate and pressure drop operating limits at the highest minimum values established during the performance stack tests.

(2) For an electrostatic precipitator operated with a wet scrubber, you must establish the minimum voltage and secondary amperage (or total electric power input), as defined in § 63.11237, as your operating limits during the three-run performance stack test. (These operating limits do not apply to electrostatic precipitators that are operated as dry controls without a wet scrubber.)

(3) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in § 63.11237, as your operating limit during the three-run performance stack test.

(4) The operating limit for boilers with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in § 63.11224, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(c) If you elect to demonstrate compliance with an applicable mercury emission limit through fuel analysis, you must conduct fuel analyses according to § 63.11213 and Table 5 to this subpart and follow the procedures in paragraphs (c)(1) through (3) of this section.

(1) If you burn more than one fuel type, you must determine the fuel type, or mixture, you could burn in your boiler that would result in the maximum emission rates of mercury.

(2) You must determine the 90th percentile confidence level fuel mercury concentration of the composite samples analyzed for each fuel type using Equation 1 of this section.

$$P_{90} = \text{mean} + (SD * t) \quad \text{(Eq. 1)}$$

Where:

P_{90} = 90th percentile confidence level mercury concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel mercury concentration in the fuel samples analyzed according to § 63.11213, in units of pounds per million Btu.

SD = Standard deviation of the mercury concentration in the fuel samples analyzed according to § 63.11213, in units of pounds per million Btu.

t = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable mercury emission limit, the emission rate that you calculate for your boiler using Equation 1 of this section must be less than the applicable mercury emission limit.

§ 63.11212 What stack tests and procedures must I use for the performance tests?

(a) You must conduct all performance tests according to § 63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in § 63.7(c).

(b) You must conduct each stack test according to the requirements in Table 4 to this subpart.

(c) You must conduct performance stack tests at the representative operating load conditions while burning the type of fuel or mixture of fuels that have the highest emissions potential for each regulated pollutant, and you must demonstrate initial compliance and establish your operating limits based on these performance stack tests. For subcategories with more than one emission limit, these requirements could result in the need to conduct more than one performance stack test. Following each performance stack test and until the next performance stack test, you must comply with the operating limit for operating load conditions specified in Table 3 to this subpart.

(d) You must conduct a minimum of three separate test runs for each performance stack test required in this section, as specified in § 63.7(e)(3) and in accordance with the provisions in Table 4 to this subpart.

(e) To determine compliance with the emission limits, you must use the F–Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A–7 to part 60 of this chapter to convert the measured particulate matter concentrations and the measured mercury concentrations that result from the initial performance test to pounds per million Btu heat input emission rates.

§ 63.11213 What fuel analyses and procedures must I use for the performance tests?

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) and (c) of this section and Table 5 to this subpart, as applicable. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury in Table 1 of this subpart.

(b) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in Table 5 to this subpart. Each composite sample must consist of a minimum of three samples collected at approximately equal intervals during a test run period.

(c) Determine the concentration of mercury in the fuel in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 5 to this subpart.

§ 63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

(a) If you own or operate an existing or new coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must conduct a performance tune-up according to § 63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.

(b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to § 63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed and submit, upon request, the energy assessment report.

(d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

Continuous Compliance Requirements

§ 63.11220 When must I conduct subsequent performance tests?

(a) If your boiler has a heat input capacity of 10 million Btu per hour or greater, you must conduct all applicable performance (stack) tests according to § 63.11212 on an triennial basis, unless you follow the requirements listed in paragraphs (b) through (d) of this section. Triennial performance tests must be completed no more than 37 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 stack tests less often for particulate matter or mercury if your performance stack tests for the pollutant for at least 3 consecutive years show that your emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. In this case, you do not have to conduct a performance stack test for that pollutant for the next 2 years. You must conduct a performance stack test during the third year and no more than 37 months after the previous performance stack test.

(c) If your boiler continues to meet the emission limit for particulate matter or mercury, you may choose to conduct performance stack tests for the pollutant every third year if your emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance stack test must be conducted no more than 37 months after the previous performance test.

(d) If you have an applicable CO emission limit, you must conduct triennial performance tests for CO according to § 63.11212. Each triennial performance test must be conducted between no more than 37 months after the previous performance test.

(e) If you demonstrate compliance with the mercury emission limit based on fuel analysis, you must conduct a fuel analysis according to § 63.11213 for each type of fuel burned monthly. If you plan to burn a new type of fuel or fuel mixture, you must conduct a fuel analysis before burning the new type of fuel or mixture in your boiler. You must recalculate the mercury emission rate using Equation 1 of § 63.11211. The recalculated mercury emission rate must be less than the applicable emission limit.

§ 63.11221 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section.

(b) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods (see section 63.8(c)(7) of this part), and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to effect monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data recorded during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions 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.

(d) Except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments,

failure to collect required data is a deviation of the monitoring requirements.

§ 63.11222 How do I demonstrate continuous compliance with the emission limits?

(a) You must demonstrate continuous compliance with each emission limit and operating limit in Tables 1 and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart and to paragraphs (a)(1) through (4) of this section.

(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§ 63.7 and 63.11196, whichever date comes first, you must continuously monitor the operating parameters. Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. Operating limits are confirmed or reestablished during performance tests.

(2) If you have an applicable mercury or PM emission limit, you must keep records of the type and amount of all fuels burned in each boiler during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in lower emissions of mercury than the applicable emission limit (if you demonstrate compliance through fuel analysis), or result in lower fuel input of mercury than the maximum values calculated during the last performance stack test (if you demonstrate compliance through performance stack testing).

(3) If you have an applicable mercury emission limit and you plan to burn a new type of fuel, you must determine the mercury concentration for any new fuel type in units of pounds per million Btu, using the procedures in Equation 1 of § 63.11211 based on supplier data or your own fuel analysis, and meet the requirements in paragraphs (a)(3)(i) or (ii) of this section.

(i) The recalculated mercury emission rate must be less than the applicable emission limit.

(ii) If the mercury concentration is higher than mercury fuel input during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.11212 to demonstrate that the mercury emissions do not exceed the emission limit.

(4) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 and 3 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in § 63.11225.

§ 63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a biennial performance tune-up according to paragraphs (b) of this section and keep records as required in § 63.11225(c) to demonstrate continuous compliance. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up.

(b) You must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 36 months).

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.

(4) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available.

(5) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).

(6) Maintain onsite and submit, if requested by the Administrator, biennial report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.

(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.

(iii) The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup.

(c) If you own or operate an existing or new coal-fired boiler with a heat input capacity of 10 million Btu per hour or greater, you must minimize the boiler's time spent during startup and shutdown following the manufacturer's recommended procedures and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures.

§ 63.11224 What are my monitoring, installation, operation, and maintenance requirements?

(a) If your boiler is subject to a carbon monoxide emission limit in Table 1 to this subpart, you must install, operate, and maintain a continuous oxygen monitor according to the procedures in paragraphs (a)(1) through (6) of this section by the compliance date specified in § 63.11196. The oxygen level shall be monitored at the outlet of the boiler.

(1) Each monitor must be installed, operated, and maintained according to the applicable procedures under Performance Specification 3 at 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to paragraph (c) of this section.

(2) You must conduct a performance evaluation of each CEMS according to the requirements in § 63.8(e) and according to Performance Specification 3 at 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 the 12-hour block average concentrations.

(6) For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, excluding data collected during periods when the monitoring system malfunctions or is out of control, during associated repairs, and during required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments). Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system malfunctions or is out of control and data are not available for a required calculation constitutes a deviation from the monitoring requirements. Periods when data are unavailable because of required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments) do not constitute monitoring deviations.

(b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under § 63.8(f).

(c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).

(1) For each continuous monitoring system (CMS) required in this section, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (b)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan (if requested) at least 60 days before your initial performance evaluation of your CMS.

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

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

(iii) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (b)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1), (3), and (4)(ii).

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d).

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each continuous parameter monitoring system according to the procedures in paragraphs (d)(1) through (5) of this section.

(1) The continuous parameter monitoring system 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 a required calculation constitutes a deviation from the monitoring requirements.

(4) Determine the 12-hour block average of all recorded readings, except as provided in paragraph (d)(3) of this section.

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

(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each continuous opacity monitoring system (COMS) according to the procedures in paragraphs (e)(1) through (7) of this section by the compliance date specified in § 63.11196.

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the requirements in § 63.8 and according to Performance Specification 1 of 40 CFR part 60, appendix B.

(3) As specified in § 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in § 63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in § 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan

and the requirements of § 63.8(e). 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 1-hour block averages collected for periods during which the COMS is not out of control.

(f) If you use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (f)(1) through (8) of this section.

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

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with EPA–454/R–98–015 (incorporated by reference, see § 63.14).

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

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

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

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

(7) For positive pressure fabric filter systems that do not duct all compartments 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.

§ 63.11225 What are my notification, reporting, and recordkeeping requirements?

(a) You must submit the notifications specified in paragraphs (a)(1) through (a)(5) of this section to the delegated authority.

(1) You must submit all of the notifications in §§ 63.7(b): 63.8(e) and (f); 63.9(b) through (e); and 63.9(g) and (h) that apply to you by the dates specified in those sections.

(2) As specified in § 63.9(b)(2), you must submit the Initial Notification no later than 120 calendar days after May 20, 2011 or within 120 days after the source becomes subject to the standard.

(3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.

(4) You must submit the Notification of Compliance Status in accordance with § 63.9(h) no later than 120 days after the applicable compliance date specified in § 63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. In addition to the information required in § 63.9(h)(2), your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the requirements in § 63.11214 to conduct an initial tune-up of the boiler."

(ii) "This facility has had an energy assessment performed according to § 63.11214(c)."

(iii) For an owner or operator that installs bag leak detection systems: "This facility has prepared a bag leak detection system monitoring plan in accordance with § 63.11224 and will operate each bag leak detection system according to the plan."

(iv) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart consistent with § 63.7(e)(2)(iv), you must submit the test data in lieu of the initial performance test results with the Notification of Compliance Status required under paragraph (a)(4) of this section.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial tune-up according to § 63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial compliance report as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, e-mail address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart.

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under § 241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of § 241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (5) of this section.

(1) As required in § 63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by § 63.11214 as specified in paragraphs (c)(2)(i) and (ii) of this section.

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) Records documenting the fuel type(s) used monthly by each boiler, including, but not limited to, a description of the fuel, including whether the fuel has received a non-waste determination by you or EPA, and the total fuel usage amount with units

of measure. If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1), you must keep a record which documents how the secondary material meets each of the legitimacy criteria. If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to § 241.3(b)(4), you must keep records as to how the operations that produced the fuel satisfies the definition of processing in § 241.2. If the fuel received a non-waste determination pursuant to the petition process submitted under § 241.3(c), you must keep a record that documents how the fuel satisfies the requirements of the petition process.

(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in § 63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(6) You must keep the records of all inspection and monitoring data required by §§ 63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable).

(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1). As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each recorded action. You must keep each record onsite for at least 2 years after the date of each recorded action according to § 63.10(b)(1). You may keep the records off site for the remaining 3 years.

(e) As of January 1, 2012 and within 60 days after the date of completing each performance test, as defined in § 63.2, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (i.e., reference method) data and performance test (i.e., compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (*see http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(f) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.

(4) The date upon which you will commence combusting solid waste.

(g) If you intend to switch fuels, and this fuel switch may result in the applicability of a different subcategory or a switch out of subpart JJJJJJ due to a switch to 100 percent natural gas, you must provide 30 days prior notice of the date upon which you will switch fuels. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will switch fuels, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable standards.

(4) The date upon which you will commence the fuel switch.

§ 63.11226 How can I assert an affirmative defense if I exceed an emission limit during a malfunction?

In response to an action to enforce the standards set forth in paragraph § 63.11201 you may assert an affirmative defense to a claim for civil penalties for exceedances of numerical emission limits that are caused by malfunction, as defined at § 63.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a limit, you must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The excess emissions:

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

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

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

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

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

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

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

(5) All possible steps were taken to minimize the impact of the excess

emissions on ambient air quality, the environment and human health; and

(6) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(7) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs; and

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

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

(b) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than two business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in § 63.11201 to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

Other Requirements and Information

§ 63.11235 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

§ 63.11236 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by 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 implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (c) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emission standard and work practice standards in § 63.11223(a).

(2) Approval of alternative opacity emission standard under § 63.6(h)(9).

(3) Approval of major change to test methods under § 63.7(e)(2)(ii) and (f). A "major change to test method" is defined in § 63.90.

(4) Approval of a major change to monitoring under § 63.8(f). A "major change to monitoring" is defined in § 63.90.

(5) Approval of major change to recordkeeping and reporting under § 63.10(f). A "major change to recordkeeping/reporting" is defined in § 63.90.

§ 63.11237 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2 (the General Provisions), and in this section as follows:

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Annual heat input basis means the heat input for the 12 months preceding the compliance demonstration.

Bag leak detection system means a group of instruments 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 means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (*e.g.*, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. This definition of biomass is not intended to suggest that these materials are or are not solid waste.

Biomass subcategory includes any boiler that burns at least 15 percent biomass on an annual heat input basis.

Boiler means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. Waste heat boilers are excluded from this definition.

Boiler system means the boiler and associated components, such as, the feedwater system, the combustion air system, the boiler fuel system (including burners), blowdown system, combustion control system, steam system, and condensate return system.

Coal means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388 (incorporated by reference, see § 63.14), coal refuse, and petroleum coke. For the purposes of this subpart, this definition of "coal" includes synthetic fuels derived from coal including, but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures. Coal derived gases are excluded from this definition.

Coal subcategory includes any boiler that burns any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis.

Commercial boiler means a boiler used in commercial establishments such as hotels, restaurants, and laundries to provide electricity, steam, and/or hot water.

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

(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.

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 are included in this definition. A dry scrubber is a dry control system.

Electrostatic precipitator (ESP) means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is a dry control system, except when it is operated with a wet scrubber.

Energy assessment means the following only as this term is used in Table 3 to this subpart:

(1) Energy assessment for facilities with affected boilers using less than 0.3 trillion Btu (TBtu) per year heat input will be one day in length maximum. The boiler system and energy use system accounting for at least 50 percent of the affected boiler(s) energy output will be evaluated to identify energy savings opportunities, within the limit of performing a one day energy assessment.

(2) Energy assessment for facilities with affected boilers and process heaters using 0.3 to 1 TBtu/year will be three days in length maximum. The boiler system(s) and any energy use system(s) accounting for at least 33 percent of the affected boiler(s) energy output will be evaluated to identify energy savings opportunities, within the limit of performing a 3-day energy assessment.

(3) Energy assessment for facilities with affected boilers and process heaters using greater than 1.0 TBtu/year, the boiler system(s) and any energy use system(s) accounting for at least 20 percent of the affected boiler(s) energy output will be evaluated to identify energy savings opportunities.

Energy use system includes, but not limited to, process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air-conditioning (HVAC) systems; hot heater systems;, building envelop; and lighting.

Equivalent means the following only as this term is used in Table 5 to this subpart:

(1) An equivalent sample collection procedure means a published voluntary consensus standard or practice (VCS) or EPA method that includes collection of a minimum of three composite fuel samples, with each composite consisting of a minimum of three increments collected at approximately equal intervals over the test period.

(2) An equivalent sample compositing procedure means a published VCS or EPA method to systematically mix and obtain a representative subsample (part) of the composite sample.

(3) An equivalent sample preparation procedure means a published VCS or EPA method that: Clearly states that the standard, practice or method is appropriate for the pollutant and the fuel matrix; or is cited as an appropriate sample preparation standard, practice or method for the pollutant in the chosen VCS or EPA determinative or analytical method.

(4) An equivalent procedure for determining heat content means a published VCS or EPA method to obtain gross calorific (or higher heating) value.

(5) An equivalent procedure for determining fuel moisture content means a published VCS or EPA method to obtain moisture content. If the sample analysis plan calls for determining mercury using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing this metal. On the other hand, if metals analysis is done on an "as received" basis, a separate aliquot can be dried to determine moisture content and the mercury concentration mathematically adjusted to a dry basis.

(6) An equivalent mercury determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for mercury and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 5 to this subpart for the same purpose.

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

Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including the requirements of 40 CFR part 60 and 40 CFR part 61, requirements within any applicable state implementation plan, and any permit requirements established under §§ 52.21 or under 51.18 and § 51.24.

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, distillate oil, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.

Gaseous fuels includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, hydrogen, and biogas.

Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

Heat input means heat derived from combustion of fuel in a boiler and does not include the heat input from preheated combustion air, recirculated flue gases, or returned condensate.

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 degrees Fahrenheit (99 degrees Celsius).

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

Institutional boiler means a boiler used in institutional establishments such as medical centers, research centers, and institutions of higher education to provide electricity, steam, and/or hot water.

Liquid fuel means, but not limited to, petroleum, distillate oil, residual oil, any form of liquid fuel derived from petroleum, used oil, liquid biofuels, and biodiesel.

Minimum activated carbon injection rate means load fraction (percent) multiplied by the lowest 1-hour average activated carbon injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

Minimum oxygen level means the lowest 1-hour average oxygen level

measured according to Table 6 of this subpart during the most recent performance stack test demonstrating compliance with the applicable CO emission limit.

Minimum PM scrubber pressure drop means the lowest 1-hour average PM scrubber pressure drop measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

Minimum sorbent flow rate means the boiler load (percent) multiplied by the lowest 2-hour average sorbent (or activated carbon) injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

Minimum voltage or amperage means the lowest 1-hour average total electric power value (secondary voltage × secondary current = secondary electric power) to the electrostatic precipitator measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane including intermediate gas streams generated during processing of natural gas at production sites or at gas processing plants; or

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see § 63.14).

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

(4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Oil subcategory includes any boiler that burns any liquid fuel and is not in either the biomass or coal subcategories. Gas-fired boilers that burn liquid fuel during periods of gas curtailment, gas supply emergencies, or for periodic testing not to exceed 48 hours during any calendar year are not included in this definition.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Particulate matter (PM) means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an alternative method.

Performance testing means the collection of data resulting from the execution of a test method used (either by stack testing or fuel analysis) to demonstrate compliance with a relevant emission standard.

Period of 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. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption.

Qualified energy assessor means:

(1) someone who has demonstrated capabilities to evaluate a set of the typical energy savings opportunities available in opportunity areas for steam generation and major energy using systems, including, but not limited to:

(i) Boiler combustion management.

(ii) Boiler thermal energy recovery, including

(A) Conventional feed water economizer,

(B) Conventional combustion air preheater, and

(C) Condensing economizer.

(iii) Boiler blowdown thermal energy recovery.

(iv) Primary energy resource selection, including

(A) Fuel (primary energy source) switching, and

(B) Applied steam energy versus direct-fired energy versus electricity.

(v) Insulation issues.

(vi) Steam trap and steam leak management.

(vi) Condensate recovery.

(viii) Steam end-use management.

(2) Capabilities and knowledge includes, but is not limited to:

(i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.

(ii) Familiarity with operating and maintenance practices for steam or process heating systems.

(iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.

(iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.

(v) Boiler-steam turbine cogeneration systems.

(vi) Industry specific steam end-use systems.

Responsible official means responsible official as defined in § 70.2.

Solid fossil fuel includes, but not limited to, coal, petroleum coke, and tire derived fuel.

Waste heat boiler means a device that recovers normally unused energy and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, which is promulgated pursuant to section 112(h) of the Clean Air Act.

TABLE 1 TO SUBPART JJJJJJ OF PART 63—EMISSION LIMITS

[As stated in § 63.11201, you must comply with the following applicable emission limits:]

If your boiler is in this subcategory	For the following pollutants. . .	You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown. . .
1. New coal-fired boiler with heat input capacity of 30 million Btu per hour or greater.	a. Particulate Matter	0.03 lb per MMBtu of heat input.
	b. Mercury	0.0000048 lb per MMBtu of heat input.
	c. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen.
2. New coal-fired boiler with heat input capacity of between 10 and 30 million Btu per hour.	a. Particulate Matter	0.42 lb per MMBtu of heat input.

TABLE 1 TO SUBPART JJJJJJ OF PART 63—EMISSION LIMITS—Continued

[As stated in § 63.11201, you must comply with the following applicable emission limits:]

If your boiler is in this subcategory	For the following pollutants. . .	You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown. . .
	b. Mercury	0.0000048 lb per MMBtu of heat input.
	c. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen.
3. New biomass-fired boiler with heat input capacity of 30 million Btu per hour or greater.	a. Particulate Matter	0.03 lb per MMBtu of heat input.
4. New biomass fired boiler with heat input capacity of between 10 and 30 million Btu per hour.	a. Particulate Matter	0.07 lb per MMBtu of heat input.
5. New oil-fired boiler with heat input capacity of 10 million Btu per hour or greater.	a. Particulate Matter	0.03 lb per MMBtu of heat input.
6. Existing coal (units with heat input capacity of 10 million Btu per hour or greater).	a. Mercury	0.0000048 lb per MMBtu of heat input.
	b. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen.

TABLE 2 TO SUBPART JJJJJJ OF PART 63—WORK PRACTICE STANDARDS, EMISSION REDUCTION MEASURES, AND MANAGEMENT PRACTICES

[As stated in § 63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:]

If your boiler is in this subcategory. . .	You must meet the following. . .
1. Existing or new coal, new biomass, and new oil (units with heat input capacity of 10 million Btu per hour or greater).	Minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.
2. Existing or new coal (units with heat input capacity of less than 10 million Btu per hour).	Conduct a tune-up of the boiler biennially as specified in § 63.11223.
3. Existing or new biomass or oil	Conduct a tune-up of the boiler biennially as specified in § 63.11223.
4. Existing coal, biomass, or oil (units with heat input capacity of 10 million Btu per hour and greater).	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. The energy assessment must include: (1) A visual inspection of the boiler system, (2) An evaluation of operating characteristics of the facility, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints, (3) Inventory of major systems consuming energy from affected boiler(s), (4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage, (5) A list of major energy conservation measures, (6) A list of the energy savings potential of the energy conservation measures identified, (7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

TABLE 3 TO SUBPART JJJJJJ OF PART 63—OPERATING LIMITS FOR BOILERS WITH EMISSION LIMITS

[As stated in § 63.11201, you must comply with the applicable operating limits:]

If you demonstrate compliance with applicable emission limits using . . .	You must meet these operating limits. . .
1. Fabric filter control	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Install and operate a bag leak detection system according to § 63.11224 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period.
2. Electrostatic precipitator control	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Maintain the secondary power input of the electrostatic precipitator at or above the lowest 1-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.
3. Wet PM scrubber control	Maintain the pressure drop at or above the lowest 1-hour average pressure drop across the wet scrubber and the liquid flow-rate at or above the lowest 1-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with the PM emission limitation.

TABLE 3 TO SUBPART JJJJJJ OF PART 63—OPERATING LIMITS FOR BOILERS WITH EMISSION LIMITS—Continued

[As stated in § 63.11201, you must comply with the applicable operating limits:]

If you demonstrate compliance with applicable emission limits using . . .	You must meet these operating limits. . .
4. Dry sorbent or carbon injection control	Maintain the sorbent or carbon injection rate at or above the lowest 2-hour average sorbent flow rate measured during the most recent performance test demonstrating compliance with the mercury emissions limitation. When your boiler operates at lower loads, multiply your sorbent or carbon injection rate by the load fraction (e.g., actual heat input divided by the heat input during performance stack test, for 50 percent load, multiply the injection rate operating limit by 0.5).
5. Any other add-on air pollution control type	This option is for boilers that operate dry control systems. Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average).
6. Fuel analysis	Maintain the fuel type or fuel mixture (annual average) such that the mercury emission rates calculated according to § 63.11211(b) is less than the applicable emission limits for mercury.
7. Performance stack testing	For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that is does not exceed 110 percent of the average operating load recorded during the most recent performance stack test.
8. Continuous Oxygen Monitor	Maintain the oxygen level at or above the lowest 1-hour average oxygen level measured during the most recent CO performance stack test.

TABLE 4 TO SUBPART JJJJJJ OF PART 63—PERFORMANCE (STACK) TESTING REQUIREMENTS

[As stated in § 63.11212, you must comply with the following requirements for performance (stack) test for affected sources:]

To conduct a performance test for the following pollutant. . .	You must. . .	Using. . .
1. Particulate Matter	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A–1 to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A–2 to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A–2 to part 60 of this chapter, or ASTM D6522–00 (Reapproved 2005),[a] or ANSI/ASME PTC 19.10–1981.[a]
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A–3 to part 60 of this chapter.
	e. Measure the particulate matter emission concentration.	Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A–3 and A–6 to part 60 of this chapter and a minimum 1 dscm of sample volume per run.
	f. Convert emissions concentration to lb/MMBtu emission rates.	Method 19 F-factor methodology in appendix A–7 to part 60 of this chapter.
2. Mercury	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A–1 to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A–2 to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A–2 to part 60 of this chapter, or ASTM D6522–00 (Reapproved 2005),[a] or ANSI/ASME PTC 19.10–1981.[a]
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A–3 to part 60 of this chapter.
	e. Measure the mercury emission concentration.	Method 29, 30A, or 30B in appendix A–8 to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784–02.[a] Collect a minimum 2 dscm of sample volume with Method 29 of 101A per run. Use a minimum run time of 2 hours with Method 30A.
	f. Convert emissions concentration to lb/MMBtu emission rates.	Method 19 F-factor methodology in appendix A–7 to part 60 of this chapter.
3. Carbon Monoxide	a. Select the sampling ports location and the number of traverse points.	Method 1 in appendix A–1 to part 60 of this chapter.
	b. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A–2 to part 60 of this chapter, or ASTM D6522–00 (Reapproved 2005),[a] or ANSI/ASME PTC 19.10–1981.[a]
	c. Measure the moisture content of the stack gas.	Method 4 in appendix A–3 to part 60 of this chapter.

TABLE 4 TO SUBPART JJJJJJ OF PART 63—PERFORMANCE (STACK) TESTING REQUIREMENTS—Continued

[As stated in § 63.11212, you must comply with the following requirements for performance (stack) test for affected sources:]

To conduct a performance test for the following pollutant. . .	You must. . .	Using. . .
	d. Measure the carbon monoxide emission concentration.	Method 10, 10A, or 10B in appendix A–4 to part 60 of this chapter or ASTM D6522–00 (Reapproved 2005) [a] and a minimum 1 hour sampling time per run.

[a] Incorporated by reference, see § 63.14.

TABLE 5 TO SUBPART JJJJJJ OF PART 63—FUEL ANALYSIS REQUIREMENTS

[As stated in § 63.11213, you must comply with the following requirements for fuel analysis testing for affected sources:]

To conduct a fuel analysis for the following pollutant . . .	You must. . .	Using . . .
1. Mercury	a. Collect fuel samples	Procedure in § 63.11213(b) or ASTM D2234/D2234M [a] (for coal) or ASTM D6323 [a] (for biomass) or equivalent.
	b. Compose fuel samples	Procedure in § 63.11213(b) or equivalent.
	c. Prepare composited fuel samples	EPA SW–846–3050B [a] (for solid samples) or EPA SW–846–3020A [a] (for liquid samples) or ASTM D2013/D2013M [a] (for coal) or ASTM D5198 [a] (for biomass) or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865 [a] (for coal) or ASTM E711 [a] (for biomass) or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173 [a] or ASTM E871 [a] or equivalent.
	f. Measure mercury concentration in fuel sample	ASTM D6722 [a] (for coal) or EPA SW–846–7471B [a] (for solid samples) or EPA SW–846–7470A [a] (for liquid samples) or equivalent.
	g. Convert concentrations into units of lb/MMBtu of heat content	

[a] Incorporated by reference, see § 63.14.

TABLE 6 TO SUBPART JJJJJJ OF PART 63—ESTABLISHING OPERATING LIMITS

[As stated in § 63.11211, you must comply with the following requirements for establishing operating limits:]

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must. . .	Using. . .	According to the following requirements
1. Particulate matter or mercury.	a. Wet scrubber operating parameters.	i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to § 63.11211(b).	(1) Data from the pressure drop and liquid flow rate monitors and the particulate matter or mercury performance stack test.	(a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the performance stack tests;
	(b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run..			
	b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers).	i. Establish a site-specific minimum secondary electric power according to § 63.11211(b).	(1) Data from the secondary electric power monitors during the particulate matter or mercury performance stack test.	(a) You must collect secondary electric power input data every 15 minutes during the entire period of the performance stack tests; (b) Determine the secondary electric power input for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.

TABLE 6 TO SUBPART JJJJJJ OF PART 63—ESTABLISHING OPERATING LIMITS—Continued

[As stated in § 63.11211, you must comply with the following requirements for establishing operating limits:]

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must. . .	Using. . .	According to the following requirements
2. Mercury	a. Activated carbon injection.	i. Establish a site-specific minimum activated carbon injection rate operating limit according to § 63.11211(b).	(1) Data from the activated carbon rate monitors and mercury performance stack tests.	(a) You must collect activated carbon injection rate data every 15 minutes during the entire period of the performance stack tests; (b) Determine the average activated carbon injection rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run. (c) When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance stack test, for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.
3. Carbon monoxide	a. Oxygen	i. Establish a unit-specific limit for minimum oxygen level according to § 63.11211(b).	(1) Data from the oxygen monitor specified in § 63.11224(a).	(a) You must collect oxygen data every 15 minutes during the entire period of the performance stack tests; (b) Determine the average oxygen concentration for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.

TABLE 7 TO SUBPART DDDDD OF PART 63—DEMONSTRATING CONTINUOUS COMPLIANCE

[As stated in § 63.11222, you must show continuous compliance with the emission limitations for affected sources according to the following:]

If you must meet the following operating limits. . .	You must demonstrate continuous compliance by. . .
1. Opacity	a. Collecting the opacity monitoring system data according to § 63.11224(e) and § 63.11221; and b. Reducing the opacity monitoring data to 6-minute averages; and c. Maintaining opacity to less than or equal to 10 percent (daily block average).
2. Fabric filter bag leak detection operation	Installing and operating a bag leak detection system according to § 63.11224 and operating the fabric filter such that the requirements in § 63.11222(a)(4) are met.
3. Wet scrubber pressure drop and liquid flow-rate.	a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§ 63.11224 and 63.11221; and b. Reducing the data to 12-hour block averages; and c. Maintaining the 12-hour average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to § 63.1140.
4. Dry scrubber sorbent or carbon injection rate	a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§ 63.11224 and 63.11220; and b. Reducing the data to 12-hour block averages; and c. Maintaining the 12-hour average sorbent or carbon injection rate at or above the minimum sorbent or carbon injection rate as defined in § 63.11237.
5. Electrostatic precipitator secondary amperage and voltage, or total power input.	a. Collecting the secondary amperage and voltage, or total power input monitoring system data for the electrostatic precipitator according to §§ 63.11224 and 63.11220; and b. Reducing the data to 12-hour block averages; and c. Maintaining the 12-hour average secondary amperage and voltage, or total power input at or above the operating limits established during the performance test according to § 63.11214.
6. Fuel pollutant content	a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to § 63.11214 as applicable; and b. Keeping monthly records of fuel use according to § 63.11222.
7. Oxygen content	a. Continuously monitor the oxygen content in the combustion exhaust according to § 63.11224. b. Maintain the 12-hour average oxygen content at or above the operating limit established during the most recent carbon monoxide performance test.

TABLE 8 TO SUBPART JJJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJJ

[As stated in § 63.11235, you must comply with the applicable General Provisions according to the following:]

General provisions cite	Subject	Does it apply?
§ 63.1	Applicability	Yes.
§ 63.2	Definitions	Yes. Additional terms defined in § 63.11237.
§ 63.3	Units and Abbreviations	Yes.
§ 63.4	Prohibited Activities and Circumvention	Yes.
§ 63.5	Preconstruction Review and Notification Requirements.	No
§ 63.6(a), (b)(1)–(b)(5), (b)(7), (c), (f)(2)–(3), (g), (i), (j)	Compliance with Standards and Maintenance Requirements.	Yes.
§ 63.6(e)(1)(i)	General Duty to minimize emissions	No. *See* § 63.11205 for general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP.	No.
§ 63.6(e)(3)	SSM Plan	No.
§ 63.6(f)(1)	SSM exemption	No.
§ 63.6(h)(1)	SSM exemption	No.
§ 63.6(h)(2) to (9)	Determining compliance with opacity emission standards.	Yes.
§ 63.7(a), (b), (c), (d) , (e)(2)–(e)(9), (f), (g), and (h)	Performance Testing Requirements	Yes.
§ 63.7(e)(1)	Performance testing	No. *See* § 63.11210.
§ 63.8(a), (b), (c)(1), (c)(1)(ii), (c)(2) to (c)(9), (d)(1) and (d)(2), (e),(f), and (g).	Monitoring Requirements	Yes.
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation.	No.
§ 63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS.	No.
§ 63.8(d)(3)	Written procedures for CMS	Yes, except for the last sentence, which refers to an SSM plan. SSM plans are not required.
§ 63.9	Notification Requirements	Yes.
§ 63.10(a) and (b)(1)	Recordkeeping and Reporting Requirements.	Yes.
§ 63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups or shutdowns.	No.
§ 63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. *See* § 63.11225 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunctions.
§ 63.10(b)(2)(iii)	Maintenance records	Yes.
§ 63.10(b)(2)(iv) and (v)	Actions taken to minimize emissions during SSM.	No.
§ 63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.
§ 63.10(b)(2)(vii) to (xiv)	Other CMS requirements	Yes.
§ 63.10(b)(3)	Recordkeeping requirements for applicability determinations.	No.
§ 63.10(c)(1) to (9)	Recordkeeping for sources with CMS	Yes.
§ 63.10(c)(10)	Recording nature and cause of malfunctions.	No. *See* § 63.11225 for malfunction recordkeeping requirements.
§ 63.10(c)(11)	Recording corrective actions	No. *See* § 63.11225 for malfunction recordkeeping requirements.
§ 63.10(c)(12) and (13)	Recordkeeping for sources with CMS	Yes.
§ 63.10(c)(15)	Allows use of SSM plan	No.
§ 63.10(d)(1) and (2)	General reporting requirements	Yes.
§ 63.10(d)(3)	Reporting opacity or visible emission observation results.	No.
§ 63.10(d)(4)	Progress reports under an extension of compliance.	Yes.
§ 63.10(d)(5)	SSM reports	No. *See* § 63.11225 for malfunction reporting requirements.
§ 63.10(e) and (f)		Yes.
§ 63.11	Control Device Requirements	No.
§ 63.12	State Authority and Delegation	Yes.
§ 63.13–63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions.	Yes.
§ 63.1(a)(5), (a)(7)–(a)(9), (b)(2), (c)(3)–(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)–(4), (c)(9).	Reserved	No.

[FR Doc. 2011–4493 Filed 3–18–11; 8:45 am]

BILLING CODE 6560–50–P

FEDERAL REGISTER

Vol. 76 Thursday,
No. 77 April 21, 2011

Part III

Environmental Protection Agency

40 CFR Part 63
National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins; Marine Tank Vessel Loading Operations; Pharmaceuticals Production; and the Printing and Publishing Industry; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2010–0600; FRL–9291–3]

RIN 2060–AO91

National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins; Marine Tank Vessel Loading Operations; Pharmaceuticals Production; and the Printing and Publishing Industry

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is taking final action for four national emission standards for hazardous air pollutants (NESHAP) that regulate 12 industrial source categories evaluated in our risk and technology review. The four NESHAP include: National Emissions Standards for Group I Polymers and Resins (Butyl Rubber Production, Epichlorohydrin Elastomers Production, Ethylene Propylene Rubber Production, Hypalon™ Production, Neoprene Production, Nitrile Butadiene Rubber Production, Polybutadiene Rubber Production, Polysulfide Rubber Production, and Styrene Butadiene Rubber and Latex Production); Marine Tank Vessel Loading Operations; Pharmaceuticals Production; and The Printing and Publishing Industry.

For some source categories, EPA is finalizing our decisions concerning the residual risk and technology reviews. For the Marine Tank Vessel Loading Operations NESHAP and the Group I Polymers and Resins NESHAP, EPA is finalizing emission standards to address certain emission sources not previously regulated under the NESHAP. EPA is also finalizing changes to the Pharmaceuticals Production NESHAP to correct an editorial error. For each of the four NESHAP, EPA is finalizing revisions to the regulatory provisions related to emissions during periods of startup, shutdown, and malfunction and promulgating provisions addressing electronic submission of emission test results.

DATES: This final action is effective on April 21, 2011.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2010–0600. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet, and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov*, or in hard copy at the EPA Docket Center, EPA West Building, Room Number 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket and Information Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Ms. Mary Tom Kissell, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Refining and Chemicals Group (E143–01), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541–4516; fax number: (919) 685–3219; and e-mail address: *kissell.mary@epa.gov*. For additional contact information, see the following **SUPPLEMENTARY INFORMATION** section.

SUPPLEMENTARY INFORMATION: For specific information regarding the modeling methodology, contact Ms. Elaine Manning, Office of Air Quality Planning and Standards, Health and Environmental Impacts Division, Air Toxics Assessment Group (C539–02), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541–5499; fax number: (919) 541–0840; and e-mail address: *manning.elaine@epa.gov*. For information about the applicability of these four NESHAP to a particular entity, contact the appropriate person listed in Table 1 to this preamble.

TABLE 1—LIST OF EPA CONTACTS FOR THE NESHAP ADDRESSED IN THIS ACTION

NESHAP for:	OECA contact [1]	OAQPS contact [2]
Group I Polymers and Resins	Marcia Mia (202) 564–7042, *mia.marcia@epa.gov.*	Nick Parsons, (919) 541–5372, *parsons.nick@epa.gov.*
Marine Tank Vessel Loading Operations	Maria Malave, (202) 564–7027, *malave.maria@epa.gov.*	Steve Shedd, (919) 541–5397, *shedd.steve@epa.gov.*
Pharmaceuticals Production	Marcia Mia, (202) 564–7042, *mia.marcia@epa.gov.*	Nick Parsons, (919) 541–5372, *parsons.nick@epa.gov.*
The Printing and Publishing Industry	Rafael Sanchez, (202) 564–7028, *sanchez.rafael@epa.gov.*	David Salman, (919) 541–5402, *salman.dave@epa.gov.*

[1] OECA stands for EPA's Office of Enforcement and Compliance Assurance.
[2] OAQPS stands for EPA's Office of Air Quality Planning and Standards.

Background Information Document. On October 21, 2010 (75 FR 65068), EPA proposed revisions to six NESHAP that regulate 16 industrial source categories evaluated in our risk and technology review. The six NESHAP and industrial source categories are: National Emissions Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; Group I Polymers and Resins; Marine Tank Vessel Loading Operations; Pharmaceuticals Production; The Printing and Publishing Industry; and Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration. In this action, we are finalizing decisions for four of these NESHAP—Group I Polymers and Resins; Marine Tank Vessel Loading Operations; Pharmaceuticals Production; and The Printing and Publishing Industry. We will finalize our decisions for the Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks NESHAP and the Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration in a future rulemaking.[1] A summary of the public comments on the proposal, and EPA's responses to the comments, is

[1] We addressed two additional source categories as part of this proposed rule, Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks and Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration, and we plan to take final action on those two source categories in June 2011.

available in Docket ID No. EPA–HQ–OAR–2010–0600.

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

I. General Information
A. Does this action apply to me?
B. Where can I get a copy of this document?
C. Judicial Review
II. Background
III. Summary of the Final Rules
A. What are the final rule amendments for the Group I Polymers and Resins source categories?
B. What are the final rule amendments for the Marine Tank Vessel Loading Operations (MTVLO) source category?
C. What are the final rule amendments for the Pharmaceuticals Production source category?
D. What are the final rule amendments for the Printing and Publishing Industry source category?
E. What are the requirements during periods of startup, shutdown, and malfunction?
F. What are the requirements for submission of emissions test results to EPA?
G. What are the effective and compliance dates of the standards?
IV. Summary of Significant Changes Since Proposal
A. What changes did we make to the risk assessments for these source categories since proposal?
B. What changes did we make to the Group I Polymers and Resins MACT since proposal?
C. What changes did we make to the Marine Tank Vessel Loading Operations MACT since proposal?
V. Summary of Significant Comments and Responses
A. EPA's Authority Under CAA Section 112
B. Group I Polymers and Resins
C. Marine Tank Vessel Loading Operations
D. Startup, Shutdown, and Malfunction (SSM) Requirements
VI. Impacts of the Final Rules
VII. Statutory and Executive Order Reviews
A. Executive Orders 12866: Regulatory Planning and Review, and Executive Order 13563: Improving Regulation and Regulatory Review
B. Paperwork Reduction Act
C. Regulatory Flexibility Act
D. Unfunded Mandates Reform Act
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. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act

A red-line version of the regulatory language that incorporates the changes in this action is available in the docket.

I. General Information

A. Does this action apply to me?

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

TABLE 2—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS FINAL ACTION

NESHAP and source category	NAICS [1] code	MACT [2] code
Group I Polymers and Resins:		
Butyl Rubber Production	325212	1307
Epichlorohydrin Elastomers Production	325212	1311
Ethylene Propylene Rubber Production	325212	1313
Hypalon™ Production	325212	1315
Neoprene Production	325212	1320
Nitrile Butadiene Rubber Production	325212	1321
Polybutadiene Rubber Production	325212	1325
Polysulfide Rubber Production	325212	1332
Styrene Butadiene Rubber and Latex Production	325212	1339
Marine Tank Vessel Loading Operations	4883	0603
Pharmaceuticals Production	3254	1201
The Printing and Publishing Industry	32311	0714

[1] North American Industry Classification System.
[2] Maximum Achievable Control Technology.

Table 2 is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by the final action for the source categories listed. To determine whether your facility would be affected, you should examine the applicability criteria in the appropriate NESHAP. If you have any questions regarding the applicability of any of these NESHAP, please contact the appropriate person listed in Table 1 of this preamble in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this final action will also be available on the World Wide Web (www) through the Technology Transfer Network (TTN). Following signature, a copy of the final action will be posted on the TTN's policy and guidance page for newly proposed and promulgated rules at the following address: *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* The TTN provides information and technology exchange in various areas of air pollution control.

Additional information is available on the residual risk and technology review (RTR) Web page at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* This information includes source category descriptions and detailed emissions and other data that were used as inputs to the risk assessments.

C. Judicial Review

Under section 307(b)(1) of the Clean Air Act (CAA), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by June 20, 2011. Under section 307(b)(2) of the CAA, the requirements established by these final rules may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review." This

section also provides a mechanism for us to convene a proceeding for reconsideration, "[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule." Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

II. Background

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of hazardous air pollutants (HAP) from stationary sources. In the first stage, after EPA has identified categories of sources emitting one or more of the HAP listed in section 112(b) of the CAA, section 112(d) calls for us to promulgate NESHAP for those sources. "Major sources" are those that emit, or have the potential to emit, any single HAP at a rate of 10 tons per year (TPY) or more, or 25 TPY or more of any combination of HAP. For major sources, these technology-based standards must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts), and are commonly referred to as maximum achievable control technology (MACT) standards.

For MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as floor requirements, and may not be based on cost considerations. See CAA section 112(d)(3). 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 floors 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 five sources for categories or subcategories with fewer than 30 sources). In developing MACT, we must also consider control options that are more stringent than the floor, under CAA section 112(d)(2). We may establish standards 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. In promulgating MACT standards, CAA section 112(d)(2) directs us to consider the application of measures, processes, methods, systems, or techniques that reduce the volume of or eliminate HAP emissions through process changes, substitution of materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; and/or are design, equipment, work practice, or operational standards.

In the second stage of the regulatory process, we undertake two different analyses, as required by the CAA: Section 112(d)(6) of the CAA calls for us to review these technology-based standards, and to revise them "as necessary (taking into account developments in practices, processes, and control technologies)" no less frequently than every 8 years; and within 8 years after promulgation of the technology standards, CAA section 112(f) calls for us to evaluate the risk to public health remaining after application of the technology-based standards and to revise the standards, if necessary, to provide an ample margin of safety to protect public health or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. In doing so, EPA may adopt standards equal to existing MACT standards if EPA determines that the existing standards are sufficiently protective. *NRDC* v. *EPA,* 529 F.3d 1077, 1083 (D.C. Cir. 2008).

On October 21, 2010, EPA published a proposed rule and supplemental notice of proposed rulemaking in the **Federal Register** for these four NESHAP that took into consideration the RTR analyses. For these NESHAP—Group I Polymers and Resins, Marine Tank Vessel Loading Operations, Pharmaceuticals Production, and The Printing and Publishing Industry—this action provides EPA's final determinations pursuant to the RTR provisions of CAA section 112. In addition, we are promulgating amendments as follows:

- For the Marine Tank Vessel Loading Operations NESHAP and Group I Polymers and Resins NESHAP, pursuant to CAA section 112(d)(2) and (3), EPA is finalizing revisions to address certain emission sources not currently regulated under the standards.
- For the Pharmaceuticals Production NESHAP, EPA is finalizing changes to correct an editorial error.
- For each of the four NESHAP, EPA is finalizing revisions to requirements in each NESHAP related to emissions during periods of startup, shutdown, and malfunction (SSM).
- For each of the four NESHAP, EPA is finalizing revisions to requirements in each NESHAP related to electronic reporting.

III. Summary of the Final Rules

A. What are the final rule amendments for the Group I Polymers and Resins source categories?

The National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins were promulgated on September 5, 1996 (62 FR 46925), and codified at 40 CFR part 63, subpart U. The Group I Polymers and Resins MACT standards apply to major sources and regulate HAP emissions from nine source categories: Butyl Rubber Production, Epichlorohydrin Elastomers Production, Ethylene Propylene Rubber Production, Hypalon™ Production, Neoprene Production, Nitrile Butadiene Rubber (NBR) Production, Polybutadiene Rubber Production, Polysulfide Rubber Production, and Styrene Butadiene Rubber and Latex Production.

The Group I Polymers and Resins MACT standards regulate HAP emissions resulting from the production of elastomers (*i.e.,* synthetic rubber). An elastomer is a synthetic polymeric material that can stretch to at least twice its original length and then return rapidly to approximately its original length when released. Elastomers are produced via a polymerization/copolymerization process, in which monomers undergo intermolecular chemical bond formation to form a very large polymer molecule. Generally, the production of elastomers entails four processes: (1) Raw material (*i.e.,* solvent) storage and refining; (2) polymer formation in a reactor (either via the solution process, where monomers are dissolved in an organic solvent, or the emulsion process, where monomers are dispersed in water using a soap solution); (3) stripping and material recovery; and (4) finishing (*i.e.,* blending, aging, coagulation, washing, and drying).

Sources of HAP emissions from elastomers production include raw material storage vessels, front-end

process vents, back-end process operations, wastewater operations, and equipment leaks. The "front-end" processes include pre-polymerization, reaction, stripping, and material recovery operations; and the "back-end" process includes all operations after stripping (predominantly drying and finishing). Typical control devices used to reduce organic HAP emissions from front-end process vents include flares, incinerators, absorbers, carbon adsorbers, and condensers. Emissions from storage vessels are controlled by floating roofs or by routing them to a control device.

While emissions from back-end process operations can be controlled with control devices such as incinerators, the most common method of reducing these emissions is the pollution prevention method of reducing the amount of residual HAP that is contained in the raw product going to the back-end operations. Emissions from wastewater are controlled by a variety of methods, including equipment modifications (*e.g.*, fixed roofs on storage vessels and oil water separators; covers on surface impoundments, containers, and drain systems), treatment to remove the HAP (steam stripping, biological treatment), control devices, and work practices.

Emissions from equipment leaks are typically reduced by leak detection and repair work practice programs, and in some cases, by equipment modifications.

For these five Group I Polymers and Resins [2] source categories—Epichlorohydrin Elastomers Production; Hypalon™ Production; Polybutadiene Rubber Production; Styrene Butadiene Rubber and Latex Production; and NBR Production—we have determined that the current MACT standards reduce risk to an acceptable level, provide an ample margin of safety to protect public health, and prevent adverse environmental effects. We are, therefore, re-adopting the existing MACT standards to satisfy section 112(f) of the CAA. We have also determined that there have been no significant developments in practices, processes, or control technologies since promulgation of the MACT standards, and that, therefore, it is not necessary to revise the MACT standard pursuant to CAA section 112(d)(6).[3]

[2] We previously re-adopted the existing MACT standards to satisfy section 112(f) of the CAA for four Group I Polymers and Resins source categories—Neoprene Rubber Production; Ethylene Propylene Rubber Production; Butyl Rubber Production; and Polysulfide Rubber Production. See 73 FR 76220, published December 16, 2008.

[3] We note there are no longer any operating facilities in the United States that produce Hypalon™, and we do not anticipate that any will begin operation in the future.

We are eliminating the subcategories in the Butyl Rubber source category (Butyl Rubber and Halobutyl Rubber) because the technical differences that distinguished the subcategories when the original rule was developed no longer exist. The existing requirements for facilities producing either butyl rubber or halobutyl rubber as the primary product are identical, and, therefore, the removal of the subcategory distinction does not affect these requirements. The source category remains named Butyl Rubber Production. We are establishing standards at the MACT floor level of control for previously unregulated hydrochloric acid (HCl) emissions from front-end process vents in the Butyl Rubber and Ethylene Propylene Rubber source categories. We are also establishing standards at the MACT floor level of control for previously unregulated back-end process operations in the Epichlorohydrin Elastomers, NBR, Neoprene, and Butyl Rubber source categories.

The numerical emission standards that are being finalized in this action for new and existing major source facilities in the Group 1 Polymers and Resins source categories are shown in Table 3 of this preamble.

BILLING CODE 6560–50–P

BILLING CODE 6560-50-C

Table 3 - Numerical Emission Standards for Existing and New Major Source of HAP in Group 1 Polymers and Resins Source Categories

Process Type	P&R I Source Category	Emissions Standard
Front-end process vents	Limit of Mg HCl per Mg elastomer produced	
	Butyl Rubber Production	$= \frac{\left(\text{HCl emissions in 2010} \frac{Mg}{yr}\right) * 1.74}{\text{butyl rubber produced in 2010} \frac{Mg}{yr}}$
	Ethylene Propylene Rubber Production	$= \frac{27 \frac{Mg}{yr}}{\text{ethylene propylene rubber produced in 2010} \frac{Mg}{yr}}$
Back-end process operations	Limit of Mg organic HAP per Mg elastomer produced	
	Butyl Rubber Production	$= \frac{\left(\text{controlled + bypassed + uncontrolled organic HAP emissions in 2009} \frac{Mg}{yr}\right) * 1.35}{\text{butyl rubber produced in 2009} \frac{Mg}{yr}}$
	Epichlorohydrin Elastomers Production	$= \frac{51 \frac{Mg}{yr}}{\text{epichlorohydrin elastomer produced in 2009} \frac{Mg}{yr}}$
	Neoprene Rubber Production	$= \frac{90 \frac{Mg}{yr}}{\text{neoprene rubber produced in 2007} \frac{Mg}{yr}}$
	NBR Production	$= \frac{24 \frac{Mg}{yr}}{\text{NBR produced in 2009} \frac{Mg}{yr}}$

We are finalizing changes to the Group I Polymers and Resins MACT standards to eliminate the SSM exemption. These changes revise Table 1 in 40 CFR part 63, subpart U to indicate that several requirements of the 40 CFR part 63 General Provisions related to periods of SSM do not apply. We are adding provisions to the Group I Polymers and Resins MACT standards to operate in a manner that minimizes emissions, removing the SSM plan requirement, removing the explanation of applicability of emissions standards during periods of SSM, revising the definition of initial start-up to remove references to malfunctions, clarifying the required conditions for performance tests, and revising the SSM-associated monitoring, recordkeeping, and reporting requirements to require reporting and recordkeeping for periods of malfunction. We are also adding provisions to provide an affirmative defense against civil penalties for exceedances of emission standards caused by malfunctions, as well as criteria for establishing the affirmative defense.

We are also requiring the electronic submittal of performance test data to increase the ease and efficiency of data submittal and to improve data accessibility. Specifically, owners and operators of Group I Polymers and Resins facilities are required to submit electronic copies of applicable reports of performance tests to EPA's WebFIRE database through an electronic emissions test report structure called the Electronic Reporting Tool (ERT). This requirement to submit performance test data electronically to EPA does not require any additional performance testing, and applies only to those performance tests conducted using test methods that are supported by the ERT.

We anticipate that the front-end process vent limits will not require additional control to meet the floor-level standards for HCl emissions from front-end process operations at the facilities in the Butyl Rubber and Ethylene Propylene Rubber source categories. We anticipate that facilities in the Butyl Rubber, Epichlorohydrin Elastomers, Neoprene Rubber, and NBR source categories will not require additional control to meet the floor-level standards for the back-end process operations.

To demonstrate compliance with the front-end process vent HCl emissions provisions of the final rule, the facility owner or operator will be required to submit an initial notification of the calculated front-end HCl limit for the facility and to perform and record monthly calculations of the mass of HCl emissions and the mass of elastomer product produced. These recorded monthly calculations are required to be submitted in the semi-annual compliance reports already required by existing provisions of the rule.

To demonstrate compliance with the back-end process operation provisions of the final rule, the facility owner or operator will be required to submit an initial notification of the calculated back-end limit for the facility, and to perform and record monthly calculations of the mass of HAP emissions and the mass of elastomer product produced. These recorded monthly calculations are required to be submitted in the semi-annual compliance reports already required by existing provisions of the rule.

The final changes to the Group I Polymers and Resins MACT standards are not expected to result in substantial emissions reduction or economic impacts. We have determined that facilities in the Group 1 Polymers and Resins categories can meet the applicable emissions limits at all times, including periods of startup and shutdown, with the exception of the organic HAP emissions limits applicable to front-end process vents at facilities in the Butyl Rubber and Ethylene Propylene Rubber source categories. We have determined that facilities in the Butyl Rubber and Ethylene Propylene Rubber source categories cannot meet the applicable organic HAP emission limits applicable to continuous front-end process vents during periods of shutdown. Therefore, we are establishing alternative emissions limits during these periods. No substantial changes in costs to industry are predicted.

B. What are the final rule amendments for the Marine Tank Vessel Loading Operations (MTVLO) source category?

MTVLO are loading operations conducted at marine terminals in which liquid commodities, such as crude oil, gasoline, and other fuels or chemicals, are pumped from the terminal's large, above-ground storage tanks through a network of pipes into a storage compartment (tank) on the vessel. Emissions occur as vapors are displaced from the tank as it is being filled. Most MTVLO facilities are either independent terminals or are associated with synthetic organic chemical manufacturers or with petroleum refineries (although MTVLO at petroleum refineries are part of the Petroleum Refinery source category).

For these MTVLO facilities, we have determined that the current MACT standards reduce risk to an acceptable level, provide an ample margin of safety to protect public health, and prevent adverse environmental effects. We are, therefore, re-adopting the existing MACT standards to satisfy section 112(f) of the CAA. We have also determined that the costs of the only significant development in practices, processes, or control technologies since promulgation of the MACT standards is disproportionate to the emission reduction that would be achieved, and we are not adopting additional technology standards pursuant to CAA section 112(d)(6).

We are finalizing changes to the MTVLO MACT standards to require standards for two subcategories of MTVLO facilities for which the current MTVLO MACT standards do not include emission standards. These subcategories are facilities with MTVLO that emit less than 10/25 TPY of HAP that are located at a major source of HAP emissions and facilities located more than 0.5 miles from shore. For these source categories, we are adding a requirement for the facilities to perform submerged fill. This requirement is the MACT floor level of control.

We are finalizing changes to the MTVLO MACT standards to eliminate the SSM exemption. These changes revise Table 1 in 40 CFR part 63, subpart Y to indicate that several requirements of the 40 CFR part 63 General Provisions related to periods of SSM do not apply. We are adding provisions to the MTVLO MACT standards to operate in a manner that minimizes emissions, clarifying the required conditions for performance tests, and revising the SSM-associated monitoring, recordkeeping, and reporting requirements to require reporting and recordkeeping for periods of malfunction. We are also adding provisions to provide an affirmative defense against civil penalties for exceedances of emission standards caused by malfunctions, as well as criteria for establishing the affirmative defense.

Additionally, we are requiring the electronic submittal of performance test data to increase the ease and efficiency of data submittal and to improve data accessibility. Specifically, owners and operators of MTVLO are required to submit electronic copies of applicable reports of performance tests to EPA's WebFIRE database through an electronic emissions test report structure called the ERT. This requirement to submit performance test data electronically to EPA does not require any additional performance testing, and applies only to those performance tests conducted using test methods that are supported by the ERT. The final changes to the

MTVLO MACT standards will have little or no impact on HAP emissions or costs because facilities currently use submerged fill, as required by Coast Guard regulations.[4]

C. What are the final rule amendments for the Pharmaceuticals Production source category?

The pharmaceutical manufacturing process consists of chemical production operations that produce drugs and medications. These operations include chemical synthesis (deriving a drug's active ingredient) and chemical formulation (producing a drug in its final form). Emissions occur from breathing and withdrawal losses from chemical storage tanks, venting of process vessels, leaks from piping and equipment used to transfer HAP compounds (equipment leaks), and volatilization of HAP from wastewater streams.

For the reasons provided in the proposed rule and in the support documents in the docket, we have determined that the current MACT standards for Pharmaceutical Production facilities reduce risk to an acceptable level, provide an ample margin of safety to protect public health, and prevent adverse environmental effects. We are, therefore, re-adopting the existing MACT standards to satisfy section 112(f) of the CAA. We have also determined that there have been no significant developments in practices, processes, or control technologies since promulgation of the MACT standards, and that, therefore, it is not necessary to revise the MACT standards pursuant to CAA section 112(d)(6).

We are finalizing changes to the Pharmaceutical Production MACT standards to eliminate the SSM exemption. These changes revise Table 1 in 40 CFR part 63, subpart GGG to indicate that several requirements of the 40 CFR General Provisions related to periods of SSM do not apply. We are adding provisions to the Pharmaceuticals Production MACT standards to operate in a manner that minimizes emissions, removing the SSM plan requirement, removing the exemption provisions for periods of SSM in 40 CFR 63.1250(g), requiring that delay of equipment leak repair plans be contained in a separate document, clarifying the required conditions for performance tests, and revising the SSM-associated monitoring, recordkeeping, and reporting requirements to require reporting and recordkeeping for periods of malfunction. We are also adding provisions to provide an affirmative defense against civil penalties for exceedances of emission standards caused by malfunctions, as well as criteria for establishing the affirmative defense.

We are also requiring the electronic submittal of performance test data to increase the ease and efficiency of data submittal and to improve data accessibility. Specifically, owners and operators of Pharmaceuticals Production facilities are required to submit electronic copies of applicable reports of performance tests to EPA's WebFIRE database through an electronic emissions test report structure called the ERT. This requirement to submit performance test data electronically to EPA does not require any additional performance testing, and applies only to those performance tests conducted using test methods that are supported by the ERT.

We are also finalizing a correction to an editorial error in 40 CFR 63.1257(e)(2)(iii)(A)(6)(ii). This section incorrectly provides that only one of the three listed criteria must be met for the inlet to the equalization tank to be considered the inlet to the biological treatment process. The final correction specifies that all of the criteria must be met.

These revisions to the Pharmaceutical Production MACT standards are not expected to result in substantial emissions reduction or economic impacts. We have determined that facilities in this source category can meet the applicable emissions standards at all times, including periods of startup and shutdown, are in compliance with the current MACT standard. No substantial changes in costs to industry are predicted. The correction to the editorial error may result in minimal costs to add or move equipment and may also result in some small amount of emission reductions for any facility that was meeting only one or two of the three listed criteria. However, as the intent of the current MACT standards at the time they were promulgated was to require facilities to meet all three criteria, the costs and emission reductions associated with this requirement were factored into the impacts of the MACT standards at the time the standards were promulgated in 1998. See 63 FR 50287.

D. What are the final rule amendments for the Printing and Publishing Industry source category?

Printing and publishing facilities are those facilities that use rotogravure, flexography, and other methods, such as lithography, letterpress, and screen printing, to print on a variety of substrates, including paper, plastic film, metal foil, and vinyl. The Printing and Publishing Industry MACT standards include two subcategories: (1) Publication rotogravure printing and (2) product and packaging rotogravure and wide-web flexographic printing. Emissions occur from the evaporation of solvents in the inks and from cleaning solvents. The emission points include printing presses and associated dryers and ink and solvent storage.

For the reasons provided in the proposed rule and in the support documents in the docket, we have determined that the current MACT standards for Printing and Publishing facilities reduce risk to an acceptable level, provide an ample margin of safety to protect public health, and prevent adverse environmental effects. We are, therefore, re-adopting the existing MACT standards to satisfy section 112(f) of the CAA. We have also determined that the costs of the only significant development in practices, processes, or control technologies since promulgation of the MACT standards is disproportionate to the emission reduction that would be achieved, and, therefore, we are not adopting additional technology standards pursuant to CAA section 112(d)(6).

We are finalizing changes to the Printing and Publishing Industry MACT standards to eliminate the SSM exemption. These changes revise Table 1 in 40 CFR part 63, subpart KK to indicate that several requirements of the 40 CFR part 63 General Provisions related to periods of SSM do not apply. We are adding provisions to the Printing and Publishing Industry MACT standards requiring sources to operate in a manner that minimizes emissions, removing the SSM plan requirement, clarifying the required conditions for performance tests, and revising the SSM-associated monitoring, recordkeeping, and reporting requirements to require reporting and recordkeeping for periods of malfunction. We are also adding provisions to provide an affirmative defense against civil penalties for exceedances of emission standards caused by malfunctions, as well as criteria for establishing the affirmative defense.

We are also requiring the electronic submittal of performance test data to increase the ease and efficiency of data submittal and to improve data accessibility. Specifically, owners and operators of printing and publishing facilities are required to submit electronic copies of applicable reports of performance tests to EPA's WebFIRE

[4] 46 CFR 153.282.

database through an electronic emissions test report structure called the Electronic ERT. This requirement to submit performance test data electronically to EPA does not require any additional performance testing, and applies only to those performance tests conducted using test methods that are supported by the ERT.

These revisions to the Printing and Publishing Industry MACT standards are not expected to result in substantial emissions reduction or economic impacts. We have determined that facilities in this source category can meet the applicable emissions standards at all times, including periods of startup and shutdown, are in compliance with the current MACT standards. No substantial changes in costs to industry are predicted.

E. What are the requirements during periods of startup, shutdown, and malfunction?

The United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. *Sierra Club* v. *EPA,* 551 F.3d 1019 (DC Cir. 2008), *cert. denied, 130 S. Ct. 1735 (U.S. 2010).* Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), that is part of a regulation, commonly referred to as the "General Provisions Rule," that EPA promulgated under section 112 of the CAA. When incorporated into CAA section 112(d) regulations for specific source categories, these two provisions exempt sources from the requirement to comply with the otherwise applicable CAA section 112 emission standards during periods of SSM.

While the Court's ruling in *Sierra Club* v. *EPA,* 551 F.3d 1019 (DC Cir. 2008), did not directly affect all the NESHAP rules being addressed, the legality of source category-specific SSM provisions, such as those in all four NESHAP rules, are called into question based on the reasoning in that decision.

We have eliminated the SSM exemptions in these four NESHAP. Consistent with *Sierra Club* v. *EPA,* EPA's standards in these rules will apply at all times. We have eliminated or revised certain recordkeeping and reporting requirements that were related to the SSM exemption that no longer applies. EPA has attempted to ensure that we have not included in the regulatory language any provisions that are inappropriate, unnecessary, or redundant in light of the removal of the SSM exemption.

EPA has not established different standards for periods of startup and shutdown for three of the four NESHAP addressed in this rule because we believe compliance with the standards is achievable during these periods. In the case of MTVLO, loading of marine tank vessels occurs in "batches," and general practice is for the loading operators to test out the vapor control system before it is attached to the tank vessel. In the case of the Pharmaceuticals Production MACT standards, we expect the difference in emission levels during periods of startup and shutdown are insignificant and that facilities in this source category should be able to comply with the standards during these times. In the case of the Printing and Publishing MACT standards, we believe there are sufficiently long averaging times incorporated into the emissions limits that facilities should be able to comply during periods of startup and shutdown. In the case of Group I Polymers and Resins, one commenter stated that organic HAP emissions that are required to be sent to emissions control equipment (*i.e.,* flares) may not be able to comply with the MACT standards during periods of shutdown. The commenter stated that they may not always be able to route some of their process vents to a flare during periods of shutdown due to the low pressure or low heating value in the process vent. EPA agrees with the commenter that it is not possible to comply with the applicable standard during periods of shutdown, and has provided an alternative standard applicable during these times.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. However, by contrast, malfunction is defined as a "sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner * * *" (40 CFR 60.2). EPA has determined that CAA section 112 does not require that emissions that occur during periods of malfunction be factored into development of CAA section 112 standards. Under CAA section 112, emissions standards for new sources must be no less stringent than the level "achieved" by the best controlled similar source, and for existing sources, generally must be no less stringent than the average emission limitation "achieved" by the best performing 12 percent of sources in the category. There is nothing in CAA section 112 that directs the Agency to consider malfunctions in determining the level "achieved" by the best performing or best controlled sources when setting emission standards. Moreover, while EPA accounts for variability in setting emissions standards consistent with the CAA section 112 case law, nothing in that case law requires the Agency to consider malfunctions as part of that analysis. CAA Section 112 uses the concept of "best controlled" and "best performing" unit in defining the level of stringency that CAA section 112 performance standards must meet. Applying the concept of "best controlled" or "best performing" to a unit that is malfunctioning presents significant difficulties, as malfunctions are sudden and unexpected events. Further, accounting for malfunctions would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category, and, given the difficulties associated with predicting or accounting for the frequency, degree, and duration of various malfunctions that might occur. As such, the performance of units that are malfunctioning is not "reasonably" foreseeable. See, *e.g., Sierra Club* v. *EPA,* 167 F. 3d 658, 662 (DC Cir. 1999) (EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to "invest the resources to conduct the perfect study."). See also, *Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (DC Cir. 1978) ("In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation."). In addition, the goal of a best controlled or best performing source is to operate in such a way as to avoid malfunctions of the source, and accounting for malfunctions could lead to standards that are significantly less stringent than levels that are achieved by a well-performing non-malfunctioning source. EPA's approach to malfunctions is consistent with CAA section 112, and is a reasonable interpretation of the statute.

In the event that a source fails to comply with the applicable CAA section 112 standards as a result of a

malfunction event, EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. EPA would also consider whether the source's failure to comply with the CAA section 112 standard was, in fact, "sudden, infrequent, not reasonably preventable" and was not instead "caused in part by poor maintenance or careless operation." 40 CFR 63.2 (definition of malfunction).

Finally, EPA recognizes that even equipment that is properly designed and maintained can sometimes fail, and that such failure can sometimes cause an exceedance of the relevant emission standard. (See, *e.g., State Implementation Plans: Policy Regarding Excessive Emissions During Malfunctions, Startup, and Shutdown* (Sept. 20, 1999); *Policy on Excess Emissions During Startup, Shutdown, Maintenance, and Malfunctions* (Feb. 15, 1983)). EPA is, therefore, adding to the final rules an affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions. See 40 CFR 63.482 (Group I Polymers and Resins), 63.561 (MTVLO), 63.822 (The Printing and Publishing Industry), 63.1251 (Pharmaceuticals Production). The regulations define "affirmative defense" to mean, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding. We also have added other regulatory provisions to specify the elements that are necessary to establish this affirmative defense. See 40 CFR 63.480 (Group I Polymers and Resins), 40 CFR 63.560 (MTVLO), 40 CFR 63.820 (The Printing and Publishing Industry), 40 CFR 63.1250 (Pharmaceuticals Production). The source must prove by a preponderance of evidence that it has met all of the elements set forth in affirmative defense. See 40 CFR 22.24. The criteria ensure that the affirmative defense is available only where the event that causes an exceedance of the emission limit meets the narrow definition of malfunction in 40 CFR 63.2 (sudden, infrequent, not reasonable preventable and not caused by poor maintenance and/or careless operation). For example, to successfully assert the affirmative defense, the source must prove by a preponderance of the evidence that excess emissions "[w]ere caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner * * *" The criteria also are designed to ensure that steps are taken to correct the malfunction, to minimize emissions in accordance with 40 CFR 63.6(e)(1)(i), and to prevent future malfunctions. For example, the source must prove by a preponderance of the evidence that "[r]epairs were made as expeditiously as possible when the applicable emission limitations were being exceeded * * *" and that "[a]ll possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health * * *" In any judicial or administrative proceeding, the Administrator may challenge the assertion of the affirmative defense, and, if the respondent has not met its burden of proving all of the requirements in the affirmative defense, appropriate penalties may be assessed in accordance with section 113 of the CAA (see also 40 CFR part 22.77).

F. What are the requirements for submission of emissions test results to EPA?

EPA must have performance test data to conduct effective reviews of CAA sections 112 and 129 standards, as well as for many other purposes, including compliance determinations, emission factor development, and annual emission rate determinations. In conducting these required reviews, EPA has found it ineffective and time consuming, not only for us, but also for regulatory agencies, and source owners and operators, to locate, collect, and submit performance test data because of varied locations for data storage and varied data storage methods. In recent years, though, performance test data in electronic format have become readily available, making it possible to move to an electronic data submittal system that would increase the ease and efficiency of data submittal and improve data accessibility.

In this action, as a step to increase the ease and efficiency of data submittal and improve data accessibility, EPA is requiring the electronic submittal of select performance test data. Specifically, EPA is requiring owners and operators of sources subject to these MACT standards to submit electronic copies of applicable reports of performance tests to EPA's WebFIRE database. The WebFIRE database was constructed to store performance test data for use in developing emission factors. A description of the WebFIRE database is available at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main*. Data entry will be through an electronic emissions test report structure called the ERT.

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

The requirement to submit performance test data electronically to EPA would not require any additional performance testing, and would apply to those performance tests conducted using test methods that are supported by the ERT. The ERT contains a specific electronic data entry form for most of the commonly used EPA reference methods. A listing of the pollutants and test methods supported by the ERT is available at *http://www.epa.gov/ttn/chief/ert/ert_tool.html*. When a facility submits performance test data to CDX, there will be no additional requirements for performance test data compilation. Moreover, we believe that industry will benefit from this new electronic data submittal requirement. Having these data, EPA will be able to develop improved emission factors, make fewer information requests, and promulgate better regulations. The information to be reported is already required for the existing test methods, and is necessary to evaluate the conformance to the test method.

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

State, local, and tribal agencies will benefit from electronic data submission as their review of the data will be more streamlined and accurate, because they would not have to re-enter the data to assess the calculations and verify the data entry. Finally, another benefit of submitting data to WebFIRE electronically is that these data will greatly improve the overall quality of the existing and new emission factors by supplementing the pool of emissions test data upon which the emission factor is based, and by ensuring that data are more representative of current industry operational procedures. A common complaint heard from industry and regulators is that emission factors are outdated or not representative of a particular source category. By receiving and incorporating data for most performance tests, EPA will be able to ensure that emission factors, when updated, represent the most current range of operational practices. In summary, in addition to supporting regulation development, control strategy development, and other air pollution control activities, having an electronic database populated with performance test data will save industry, State, local, and tribal agencies, and EPA significant time, money, and effort while improving the quality of emission inventories, and, as a result, air quality regulations.

G. What are the effective and compliance dates of the standards?

The revisions to the MACT standards being promulgated in this action are effective on April 21, 2011. For the MACT standards being addressed in this action, the compliance date for the revised SSM requirements is the effective date of the standards, April 21, 2011. The electronic reporting requirements for the four MACT standards being addressed in this action are effective on January 1, 2012. For the Group 1 Polymers and Resins MACT standards, the compliance date for existing sources for the new MACT standards applicable to front-end and back-end process operations is 1 year from the effective date of the standards, April 23, 2012. For the Marine Tank Vessel Loading Operations MACT standards, the compliance date for the new requirements for submerged fill is 1 year from the effective date of the standards, April 23, 2012. The compliance date for the corrected provision in the Pharmaceuticals Production MACT standards is the effective date of the standards, April 21, 2011. Beyond the revised SSM and electronic reporting requirements, there are no changes to The Printing and Publishing Industry MACT standards.

IV. Summary of Significant Changes Since Proposal

A. What changes did we make to the risk assessments for these source categories since proposal?

CAA section 112(f)(2) requires us to determine whether certain emissions standards reduce risk to an acceptable level, and once we have ensured that the risk is acceptable, whether the standards provide an ample margin of safety to protect public health and prevent an adverse environmental effect. First we determine whether there is an acceptable risk. EPA generally presumes that, if the maximum individual risk (MIR) is no higher than 100-in-1 million, that risk is acceptable. In addition to MIR, EPA also considers a series of other health measures and factors to complete an overall judgment on acceptability. In some cases, these health measures and factors taken together may provide a more realistic description of the magnitude of risk in the exposed population than MIR alone. If the risk is unacceptable, EPA must require additional controls, without consideration of cost, to ensure an acceptable level of risk. After determining that the level of risk is acceptable, EPA evaluates whether the standards provide an ample margin of safety by considering costs and economic impacts of controls, technological feasibility, and other relevant factors, in addition to those health measures and factors considered to determined acceptability. Considering all of these factors, EPA ensures that the standard is set at a level that provides an ample margin of safety to protect public health, as required by CAA section 112(f).

At proposal, we conducted risk assessments that provided estimates of the MIR posed by the allowable and actual HAP emissions from each source in a category, the distribution of cancer risks within the exposed populations, cancer incidence, hazard index (HI) for chronic exposures to HAP with non-cancer health effects, and hazard quotient (HQ) for acute exposures to HAP with non-cancer health effects. We found that the residual risks to public health from all source categories subject to these four MACT standards are acceptable, and, further, that the existing standards provide an ample margin of safety to protect public health and pose no adverse environmental effects. Thus, we proposed that no additional controls would be required to address such risks. Specifically, we found that the lifetime cancer risk to the individual most exposed to emissions from each of these seven source categories [5] was less than 100-in-1 million for both the actual emissions and the emissions that would occur if emissions from the source categories were at the maximum levels allowed by the standards. Additional analyses showed that the cancer incidence and number of people with cancer risk over 1-in-1 million were low. In addition, a review of the acute non-cancer exposures showed that none of these seven source categories posed an appreciable risk of acute non-cancer health effects. We also determined that HAP emissions from these source categories were not expected to result in adverse environmental effects.

To support our decisions regarding acceptability and ample margin of safety in the proposal, we also conducted risk assessments that accounted for HAP emissions from entire facilities at which a source covered by one of the standards under review was located. With the exception of two facilities with MTVLO on-site that had facility-wide risks greater than 100-in-1 million, based on the data we had at that time, we concluded, for purposes of the proposal, that the facility-wide risk for sources in the four source categories was also relatively low. As a result of data and information received from commenters on the proposal, we now project the highest facility-wide risk with MTVLO on-site is approximately 90-in-1 million.

Uncertainty and the potential for bias are inherent in all risk assessments, including those performed for the source categories addressed in these final rules. Although uncertainty exists, we believe that our approach, which used conservative tools and assumptions, ensures that our decisions are health-protective. A discussion of the uncertainties in the emissions datasets, dispersion modeling, inhalation exposure estimates, and dose-response relationships is provided in the preamble to the proposed rule. See 75 FR 65081–65083.

[5] The seven source categories for which we conducted RTR are Epichlorohydrin Elastomers Production; Polybutadiene Rubber Production; Styrene Butadiene Rubber and Latex Production; and NBR Production; Marine Tank Vessel Loading Operations, Pharmaceuticals Production; and Printing and Publishing. We did not conduct RTR for four of the Group I Polymers and Resins source categories (Butyl Rubber Production; Ethylene Propylene Rubber Production; Polysulfide Rubber Production; and Neoprene), because we previously re-adopted the existing MACT standard to satisfy section 112(f) of the CAA. See 73 FR 76220, published December 16, 2008. In addition, we did not conduct RTR for Hypalon™ Production, because there are no longer any facilities operating in the United States.

B. What changes did we make to the Group I Polymers and Resins MACT since proposal?

We are eliminating the subcategories (*i.e.*, Butyl Rubber and Halobutyl Rubber) in the Butyl Rubber source category because we agree with commenters who stated that both facilities in the Butyl Rubber source category now produce halobutyl rubber as the primary product, and the technical differences that distinguished the subcategories no longer exist. The current MACT standards for facilities in this source category are not affected by the removal of the subcategory distinction because the existing standards are identical for each subcategory. In October 2010, we proposed the same standards for both subcategories for the front-end process operations. However, we proposed different standards for each subcategory for the back-end process operations. Considering that both facilities would now be identified as being part of one source category by primary product determination, it would not be appropriate to finalize the proposed requirements that were based on analyses of each facility in its own subcategory. To address the two facilities together in one Butyl Rubber source category, we re-evaluated the emissions reductions, costs, and other impacts of controls for both the back-end operations and the front-end process vents for these two facilities. For the front-end process vents, we had proposed beyond-the-floor standards for both the Butyl Rubber subcategory and the Halobutyl Rubber subcategory, along with the Ethylene Propylene Rubber source category. Based on our revised analyses, we are setting requirements for the combined Butyl Rubber source category at the MACT floor level of control. The requirements for the Ethylene Propylene Rubber source category are also being set at the MACT floor level of control. For the back-end process operations, we had proposed beyond-the-floor standards for the Butyl Rubber subcategory, and the MACT floor level of control for the Halobutyl Rubber subcategory. Based on our revised analyses, we are setting requirements for the combined Butyl Rubber source category at the MACT floor level of control.

We are finalizing our proposal to set standards at the MACT floor level of control for back-end process operations in the Epichlorohydrin Elastomers, NBR, and Neoprene source categories. However, based on information we received during the comment period, we have revised some of the MACT floor limits for these source categories. Information received for the only facility in the Neoprene Rubber Production source category corrected the emissions rate of one HAP emissions source, and we have revised the MACT floor limit for that source category to reflect the corrected emissions rate. We also received information during the comment period for the one facility in the NBR source category, which showed that, due to the different grades of product produced, the rate of emissions per unit of production varies. Similarly, the one facility in the Epichlorohydrin Elastomers source category also expected to have variations in the rate of emissions per unit of production, based on its different grades of product produced. Considering this variation in emissions, we increased the limit of the MACT floor for these source categories to allow for the observed variability in emissions per unit of production. We also added factors to account for variation in emissions per unit of production for the Butyl Rubber and Ethylene Propylene Rubber source categories, based on information received for the facilities in this source category.

C. What changes did we make to the Marine Tank Vessel Loading Operations MACT since proposal?

We proposed the MACT floor as submerged fill for the two subcategories not previously regulated (facilities emitting less than 10/25 TPY of HAP from MTVLO, and those "offshore" facilities located more than 0.5 miles from shore). Additionally, under the CAA section 112(d)(6) technology review of the existing MTVLO MACT, and as setting the beyond-the-floor MACT standards for the two subcategories not previously regulated, we proposed that existing facilities loading 1 million barrels per year (bbl/yr) of gasoline install vapor controls, either meeting 97-percent control, or the equivalent emission limit of 10 milligrams per liter (mg/l).

We are finalizing the proposed MACT floor work practice to require submerged fill of liquids into marine tank vessels at those previously unregulated sources. However, as a result of information received during the comment period, we are not finalizing the requirements we proposed under the technology review requirements of CAA section 112(d)(6), the beyond the floor and technology review requirements for vapor control technology for facilities loading 1 million bbl/yr.

V. Summary of Significant Comments and Responses

In the proposed action, we requested public comments on our residual risk reviews, our technology reviews, proposed amendments to delete the startup and shutdown exemptions and the malfunction exemption, the control of unregulated HAP, and clarification of rule provisions. We received written comments from 104 commenters. Our responses to the public comments that changed the basis for our decisions or are otherwise significant are provided below.[6]

A. EPA's Authority Under CAA Section 112

Comment: We received comments both in favor of and objecting to EPA's consideration of various factors in determining acceptable risk. Some commenters argue that the two-step process developed to address residual risk and determine "ample margin of safety" in the Benzene NESHAP should be preserved. Commenters also request that EPA continue to use its discretion to determine that a maximum cancer risk of 100-in-1 million is acceptable. Another commenter supports EPA's commitment to avoid establishing inflexible decision points for acceptable risks or ample margin of safety. Commenters also debate whether EPA has the authority to evaluate, or should, as a matter of policy, evaluate facility-wide risk, demographic assessments, and risks based on actual or allowable emissions.

Response: For the four rules we are finalizing, our evaluation of facility-wide risk, demographics, and allowable emissions did not change our decisions about acceptability and ample margin of safety. Therefore, comments on how these factors were used by EPA in determining acceptable risks are not germane to these final rules. We note, however, that section 112(f)(2) of the CAA expressly preserves our use of the two-step process for developing standards to address residual risk and interpret "ample margin of safety" as developed in the Benzene NESHAP.[7] In both the Benzene NESHAP and our

[6] See *Summary of Public Comments and Responses for Group I Polymers and Resins, Marine Tank Vessel Loading Operations, Pharmaceutical Production, and The Printing and Publishing NESHAP* (March 2011), for summaries of other comments and our responses to them.

[7] See National Emission Standards for Hazardous Air Pollutants: Benzene Emissions from Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants (Benzene NESHAP) (54 FR 38044, September 14, 1989).

Residual Risk Report[8] to Congress, we explain that we do not define "rigid line(s) of acceptability" and that we will consider a series of other health measures and factors in determining if risk is acceptable. Our authority to use the two-step process laid out in the Benzene NESHAP, and to consider a variety of measures of risk to public health is discussed more thoroughly in the preamble to the proposal. See 75 FR 65071–65073.

Comment: Some commenters state that our review under CAA section 112(d)(6) should be limited to only advances in work practices and control technologies, and should not include emission points not regulated by the existing MACT standard. Expanding rule applicability should not be considered, as it has nothing to do with developments in practices, processes, or control technologies and is not indicated in the CAA as a basis for the technology review. The commenter states that EPA already made applicability determinations in the original MACT rules by evaluating the floor and beyond-the-floor options, and nothing in the CAA warrants review of these determinations. The commenters also state these changes should only be considered in the CAA section 112(f) risk review to reduce risks.

Some commenters stated that a review under CAA section 112(d)(6) is not required if the post-MACT emissions levels result in risks that are deemed to be protective of public health with an ample margin of safety. Furthermore, they stated that EPA should exempt source categories from CAA section 112(d)(6) review once this level has been achieved. They add that the review under CAA section 112(d)(6) should be considered an extension of the main purpose of CAA section 112, which is to reduce the public's exposure to air toxics, and not to impose new technology just because it is available. One commenter states that it was the intent of Congress for the MACT standards to ultimately reduce risk from sources to a level considered acceptable, and there is no legislative history to suggest that Congress expected EPA to revise MACT standards after these levels had been achieved.

Another commenter states an opposing view, saying that, in keeping with the context of CAA section 112(d), which requires technology-based standards that reflect the maximum degree of emission reduction achievable, CAA section 112(d)(6) serves as an on-going ratchet to continually require EPA to update standards to keep pace with new technology. The commenter states that the decision of the Court in the Hazardous Organic NESHAP (HON)[9] ruling, while not requiring recalculation of the floor for that standard, did so only for that MACT because there were no new developments in practices, processes, or control technologies, and expressly declined to decide whether EPA was required to recalculate the floors for other instances where there were such developments.

Response: We note that we do not consider unregulated emission points under CAA section 112(d)(6). To the extent there are unregulated emission points, we set standards under CAA sections 112(d)(2) and (3). We are not revising any of the four MACT rules in this notice pursuant to the CAA section 112(d)(6) review. Instead, for the newly regulated emissions points in the Group I Polymers and Resins source categories and in the Marine Tank Vessel Loading Operations source category we are promulgating MACT standards under CAA sections 112(d)(2)–(3).

In our CAA section 112(d)(6) review of pre-existing standards, we consider both improvements in practices, processes, or control technologies that we may have previously considered, as well as practices, processes, or control technologies that are new, or were unknown to us when the original MACT rule was developed. Because incremental changes in the practices, processes, or control technologies can have a significant impact on emissions, these changes are considered in our analysis of whether to revise the MACT standards under CAA section 112(d)(6). In considering both existing and new practices, processes, and control technologies, we consider costs and other factors in determining whether it is "necessary" to revise the existing standard.

We disagree with the view that a determination under CAA section 112(f) of an ample margin of safety and no adverse environmental effects alone will, in all cases, cause us to determine that a revision is not necessary under CAA section 112(d)(6). In some cases, even if risk factors remain the same from one round of CAA section 112(d)(6) review to another, changes in costs or availability of control technology may be sufficient to alter a previous conclusion about whether to impose further controls. We also disagree with the assertion that the HON Court's ruling that CAA section 112(d)(6) does not require re-calculation of MACT floors was limited to instances in which there have not been developments in practices, processes, or control technologies. In fact, the Court was quite clear on this point, and declined to rule only on whether it was appropriate for EPA to consider costs and risks in conducting CAA section 112(d)(6) reviews, as the issue was rendered moot by the litigants' failure to preserve it. See *NRDC* v. *EPA*, 529 F.3d at 1084 ("It has been argued that EPA was obliged to completely recalculate the maximum achievable control technology—in other words, to start from scratch. We do not think the words 'review, and revise as necessary' can be construed reasonably as imposing any such obligation. Even if the statute did impose such an obligation, petitioners have not identified any post-1994 technological innovations that EPA has overlooked.").

Comment: Commenters state that EPA does not have the authority under CAA section 112(d)(2) or (3) to later review and possibly revise the MACT determination once a MACT determination has been made for a source category. Several commenters state that EPA only has the authority to revisit the rulemaking if a timely legal challenge to the standard is lodged. The commenters further note they are not aware of any instance where EPA has revisited a beyond-the-floor analysis in the absence of a Court decision, rule vacatur, or settlement agreement. Commenters also state that reassessing MACT standards and imposing more stringent requirements would also be inconsistent with Congress's desire for finality evident in the judicial review provisions of CAA section 307(b), which provides that challenges to MACT standards must be raised within 60 days of their promulgation, assuring that regulated entities, EPA, and the public know what emissions limitations will apply to a source rather than having those limitations be subject to flux.

In contrast, one commenter states that it is appropriate and essential that EPA establish control for all emissions sources, including sources that previously had "no control" floors, under CAA section 112(d)(6). The commenter states that EPA should continue to do this for all MACT standards.

Response: Under CAA section 112(d)(2), the EPA must promulgate technology-based standards that reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). Nothing in the

[8] See *Residual Risk Report to Congress*, EPA–453/R–99–001 (March 1999).

[9] *NRDC and LEAN* v. *EPA*, 529 F.3d 1077 (D.C. Cir. 2008).

CAA or its legislative history suggests that EPA is prohibited from reviewing and revising MACT standards, except as part of the CAA section 112(d)(6) or CAA section 112(f) reviews. Where we identify emission points that were erroneously not previously regulated under a MACT rule, we may identify MACT floor and beyond-the-floor control options for existing and new sources. An agency generally remains free to revise improperly promulgated or otherwise unsupportable rules, even in the absence of a remand from a Court. *United Gas Improvement Co.* v. *Callery Props., Inc.*, 382 U.S. 223, 229 (1966) ("An agency, like a court, can undo what is wrongfully done by virtue of its order."); *Macktal* v. *Chao*, 286 F.3d 822, 825–26 (5th Cir. 2002) ("[I]t is generally accepted that in the absence of a specific statutory limitation, an administrative agency has the inherent authority to reconsider its decisions."). Agencies have particularly broad authority to revise their regulations to correct their errors. *Last Best Beef, LLC* v. *Dudas*, 506 F.3d 333, 340 (4th Cir. 2007); *Friends of the Boundary Water Wilderness* v. *Bosworth*, 437 F.3d 815, 823 (8th Cir. 2006) ("It is widely accepted that an agency may, on its own initiative, reconsider its interim or even final decisions, regardless of whether the applicable statute and agency regulations expressly provide for such review.") (citations omitted). Moreover, an agency may reconsider its methodologies and application of its statutory requirements and may even completely reverse course, regardless of whether a court has determined that its original regulation is flawed, so long as the agency explains its bases for doing so. *Motor Vehicle Mfrs. Ass'n* v. *State Farm Mutual Auto Ins. Co.*, 463 U.S. 29, 42 (1983); *FCC* v. *Fox Television Stations, Inc.*, 129 S. Ct. 1800, 1810 (2009); *Nat'l Cable & Telecomms. Ass'n* v. *Brand X Internet Servs.*, 545 U.S. 967, 981–82 (2005) (internal citations omitted): ("'An initial agency interpretation is not instantly carved in stone. On the contrary, the agency * * * must consider varying interpretations and the wisdom of its policy on a continuing basis,' *Chevron, supra* at 863–864[], for example, in response to changed factual circumstances, or a change in administration. That is, no doubt, why in *Chevron* itself, this Court deferred to an agency interpretation that was a recent reversal of agency policy.")

Here, both the Polymers and Resins I and the Marine Tank Vessel Loading Operations NESHAP, as originally promulgated, did not contain MACT standards for certain significant HAP emissions points, and, we are, therefore, appropriately promulgating standards for those emissions points under CAA sections 112(d)(2)–(3) for the first time. CAA section 112(d)(6) and CAA section 112(f)(2) do not govern the initial establishment of the MACT standards. This approach is consistent with other recent actions that establish MACT standards for the first time for significant emissions points that had not been previously addressed by CAA section 112 (d) standards. See, *e.g.*, National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries; Final Rule, 74 FR 55670, 556773–74 (October 28, 2009).

B. Group 1 Polymers and Resins

Comment: One commenter states that, due to changes made at a facility since MACT promulgation, the facility would no longer fall into the Butyl Rubber subcategory, based on the primary product made, and would be in the Halobutyl Rubber subcategory. (The Butyl Rubber and Halobutyl Rubber subcategories comprise the Butyl Rubber source category.) However, the unit at this facility that produces halobutyl rubber as the primary product is a flexible operations unit that produces three major products, one of which is still butyl rubber, and, therefore, emits significantly different emissions from the only other halobutyl rubber facility in the United States, which produces halobutyl rubber exclusively. Commenters recommend EPA revise the Butyl Rubber source category descriptions to distinguish between halobutyl rubber-only and flexible units, and to apply primary product determinations only at the category level, and not the subcategory level. The commenters further state that, if these facilities are not separated into different subcategories and are both included in the Halobutyl Rubber subcategory, the current proposal and supporting analyses will not be applicable, and new analyses and proposal will be needed.

Response: Currently there are only two facilities in the United States that produce either butyl or halobutyl rubber. Since one of these facilities can produce both butyl rubber and halobutyl rubber, and since halobutyl rubber is the primary product for both of these facilities, we have concluded that there is no longer a need to maintain the subcategory distinction in the Butyl Rubber source category in the current MACT standards. Therefore, we have removed the subcategories of Halobutyl Rubber and Butyl Rubber in the Butyl Rubber source category, and both facilities that were in these subcategories will now be included in the Butyl Rubber source category. The Group I Polymers and Resins MACT standards create separate source categories or subcategories by requiring different standards for different types of primary products. In the final rule, we have removed the language that distinguishes halobutyl rubber as a separate product type, which has the effect of removing the subcategories from the Butyl Rubber source category. While the existing MACT standards have identical requirements for the Butyl and Halobutyl Rubber subcategories, we proposed different requirements for these subcategories for back-end process operations, and common requirements for the front-end process vents at proposal.

With the removal of the subcategory distinction, we have revised our analyses of the emissions reductions, costs, and other impacts of controls for both the front-end and back-end process operations for these two facilities. Based on these analyses, we determined that the beyond-the-floor standards for front-end process operations that were proposed separately for both the Butyl Rubber and Halobutyl Rubber subcategories, which are a 98-percent reduction in organic HAP, and a 99-percent reduction in hydrogen halides and halogens, are not cost-effective for the Butyl Rubber source category. We are setting requirements for the combined front-end process operations for the Butyl Rubber source category at the MACT floor level of control. For the back-end process operations, we proposed beyond-the-floor standards for the Butyl Rubber subcategory, and the MACT floor level of control for the Halobutyl Rubber subcategory. Based on our revised analyses, the beyond-the-floor level of control, which is a 98-percent reduction in organic HAP, is not cost-effective for the Butyl Rubber source category. We are setting requirements for the combined back-end process operations for the Butyl Rubber source category at the MACT floor level of control. The current MACT standards are not affected by the removal of the subcategory distinction because the existing standards are identical for each subcategory.

Comment: One commenter stated that, if a facility was subject to MACT standards limiting HCl emissions from its front-end process vents in the Butyl Rubber source category and the Ethylene Propylene Rubber source category, then it would be unacceptable business practice to route those emissions to the proposed shared control device. A shared control device

would limit operating flexibility, cause lost business due to shutdown of both units for expected maintenance of thermal oxidizers and halogen scrubbers, and the potential for lost business, excess emissions, and dual violations from both units from unplanned shutdowns. The commenter states that EPA, therefore, needs to consider separate controls for each unit, a spare thermal oxidizer and halogen scrubber, or the significant lost business and other costs and emission impacts of having a shared control device in the beyond-the-floor costs analysis for the proposed control. The commenter estimates that the costs for the units to be controlled separately are $20,600/ton HCl emissions reduced for the unit in the Butyl Rubber source category (note that the commenter refers to this as the halobutyl rubber unit, since that is the product being produced), and $51,000/ton HCl emissions reduced for the unit in the Ethylene Propylene Rubber source category. Commenters also stated that the proposed beyond-the-floor MACT standards to control front-end process vents in the Butyl Rubber and Ethylene Propylene Rubber source categories are not cost-effective and should not be finalized. One commenter provided data showing costs to range from $16,900/ton of HAP emissions reduced to $80,100/ton of HAP emissions reduced to meet the proposed front-end process vent MACT standards.

Response: We disagree with the claim that the CAA precludes our taking note of the co-location of these units in estimating the costs to control the HCl from these units. Nevertheless, based on information received during the comment period, we recalculated separate source category cost estimates for control of HCl from ethylene propylene rubber and butyl rubber units for the one facility where these units are co-located. The changes from the estimate at proposal primarily include using a recuperative thermal oxidizer rather than a direct flame incinerator, and including additional ductwork and pumps needed to convey emissions to the control devices. We estimate that, considered separately, the cost to control the ethylene propylene rubber front-end process vents would be approximately $19,000/ton HCl emissions reduced, and the cost to control the butyl rubber front-end process vents would be approximately $12,000/ton HCl emission reduced.

Comment: Commenters state that the proposed beyond-the-floor MACT standards to control the back-end process vents in the Butyl Rubber source category are not cost-effective, and should not be finalized. One commenter provided data showing costs to range from $72,300/ton of HAP emissions reduced to $75,600/ton of HAP emissions reduced to meet the proposed back-end process vent MACT standards.

Response: With the removal of the subcategory distinction, we revised our analyses of the emissions reductions, costs, and other impacts of the beyond-the-floor option identified at proposal. This beyond-the-floor option would require the ducting of emissions from the uncontrolled back-end process operations to a control device for the two facilities now in the Butyl Rubber source category. In this revised analysis, we considered information provided during the comment period regarding the types of oxidizers and ducting equipment that would be needed for the facilities in this source category for the beyond-the-floor control option, as well as the provided information on process flow rates. From the revised analysis, we estimate that thermal oxidizers would achieve an emissions reduction of 98 percent, resulting in a decrease in hexane emissions of approximately 66 TPY. The capital costs of this option are estimated to be approximately $3.5 million, total annual costs are estimated to be approximately $1.5 million, and the cost-effectiveness values would be approximately $23,000 per ton of HAP emissions reduced. We believe the costs of this beyond-the-floor option are not reasonable, given the level of emission reduction. Therefore, we are finalizing the MACT floor level of emissions. We have determined that the MACT floor level of control for the source category is a production-based limit reflecting each source's organic HAP emissions divided by its total elastomer product leaving the stripper in 2009, multiplied by a variability factor of 1.35. In establishing the floor-level limit, the variability factor was included to account for the historic variability in the amount of emissions per unit of production at these facilities.

Comment: Commenters noted that the emissions from back-end process operations for facilities in the Epichlorohydrin Elastomers, NBR, and Butyl Rubber source categories, and HCl emissions from front-end process operations in the Ethylene Propylene Rubber and Butyl Rubber source categories will vary only by the mass of polymer product produced, because there is only one facility in each source category. The commenters note that the proposed MACT standards were based on emissions data and associated production levels for certain years. These commenters state that it is not appropriate to set the standards in this way, as it does not allow for variability in the manufacturing process, or the potential for the production of different product mixes and volumes in the future. One commenter suggests using 2008 emissions, and, perhaps, other recent years of data in setting the limits. Another commenter suggests that EPA look at the statistical variation over time, and, if EPA revisits the current subcategorization scheme within the Butyl Rubber source category, then EPA should also consider variability in source design and operation. The commenter also notes that, over the last 10 years, emissions from back-end process vents varied by up to 43 percent from their levels in 2006 due to factors such as weather conditions, grade slate changes (such as product grade or slight variations in product type), and process and control device reliability/service. Both commenters submitted additional emissions data for EPA's consideration.

Response: We have adjusted the emissions limits in the final rule to better account for process variability and other factors for the front-end process vent MACT limits in the Butyl Rubber and Ethylene Propylene Rubber source categories and the back-end MACT limits for the Butyl Rubber, Epichlorohydrin Elastomers, and NBR source categories.[10] For the Butyl Rubber source category, up to 10 years of annual emissions and annual production data were submitted for the two facilities in the source category. These data showed that the emissions per unit production varied up to 74 percent higher for HCl from front-end process vents than that reported in 2010, and varied up to 35 percent higher for back-end process vents than that reported for 2009. To account for this variability, we included a variability factor of 74 percent over the HCl emissions per unit production in 2010 in the front-end process operations limit, and a variability factor of 35 percent over the emissions per unit production in 2009 in the back-end process operations limit for this source category. For the Ethylene Propylene Rubber source category, historical annual emissions and annual production data were submitted for the one affected facility in the source category. These data showed that the emissions per unit production varied up to 39 percent higher for HCl from front-end process vents than reported in 2010. To account for this variability, we included a variability factor of 39 percent over the HCl emissions per unit production in 2010 in the front-end

[10] See *Regulatory Alternative Impacts for Group I Polymers and Resins* (March 2011) in the docket.

process operations limit. Similarly, for the NBR source category, historical annual emissions and production data were submitted after the comment period for the one facility in the source category. While this facility recently installed emissions control systems beyond those required to meet the current MACT requirements, after these control were in place, the data showed that emissions per unit production varied up to 42 percent higher than that reported for 2009. To account for this variability, we included a variability factor of 42 percent over the emissions per unit production in 2009 in the back-end process operations limit for this source category. For the Epichlorohydrin Elastomers source category, historical annual emissions indicative of the expected variation of emissions was unavailable. Due to the similarities between the NBR and Epichlorohydrin Elastomers facilities in the equipment used, and how they operate their back-end processes, however, the same 42-percent variability factor was applied to the emissions per unit production in 2009 in the back-end process operations limit.

Comment: Commenters stated that EPA should provide an allowance for maintenance of any thermal oxidizer required to be installed. One commenter notes that a regenerative thermal oxidizer (RTO) requires maintenance that sometimes necessitates that the RTO be bypassed. The commenter notes that back-end process vents at existing sources in the Butyl Rubber source category are currently permitted to allow bypass emissions during maintenance work on the control device up to the permitted limit with the use of purchased Emission Reduction Credits in Texas, and an allowance for bypass emissions is included in the unit operating permit in Louisiana. The commenter suggests that the MACT standards for the back-end process vents should recognize that bypassing currently occurs for RTO-controlled emissions, and allow for it in the MACT standards.

Response: We recognize that bypassing currently occurs. However, the Court has made clear that MACT standards must apply at all times. See *Sierra Club* v. *EPA*, 551 F.3d 1019 (D.C. Cir. 2008), cert. denied, 130 S. Ct. 1735 (U.S. 2010). The emission limits we are finalizing for the back-end process operations are in the format of a 12-month rolling average, and, therefore, facilities may bypass only provided that they are in continuous compliance with the standards.

Comment: Commenters requested that EPA clarify the definition of back-end processes specifically to exclude operations that have essentially no HAP emission potential, such as handling and storage of finished products. They stated that it would also be helpful for the Agency to clarify that surge control vessels, equipment leaks, storage vessels, and wastewater, which are regulated by the Group I Polymers and Resins MACT, are not included in the definition of back-end processes.

Response: We agree with the commenters that the proposed definition of back-end processes was unclear, and that surge control vessels, equipment leaks, storage vessels, and wastewater are regulated in the existing Group I Polymers and Resins MACT standards, and that handling and storage of finished products is not part of the back-end process operations. We have revised the language in the final rule accordingly.

Comment: Commenters request clarification that, in the absence of allowing 4 years for compliance, the first compliance demonstration would be 24 months after the publication date for emission limits, based on a 12-month rolling average. This would allow for data collection to begin in the first month after the compliance date (13th month after promulgation) and provide for 1 year of data to be used in the compliance demonstration. One commenter requested that compliance not be determined on less than a 12-month basis, because this would limit the variability allowed for in the rolling 12-month limit.

Response: We agree with the commenter that compliance should be determined on a 12-month basis. The first time 12 months of data will be available will be in the 13th month after the compliance date, which is the 25th month after the publication date. To demonstrate compliance, the 12-month rolling average information must be included in the first periodic report that occurs after 12 months of data have been collected. We have clarified the timing of the compliance demonstration in the final rule language.

C. Marine Tank Vessel Loading Operations

Comment: Commenters stated that there were errors in the 2005 National Emissions Inventory (NEI) data set, and that EPA significantly overestimated the MIR for the MTVLO source category for each of these facilities due to data errors.

Response: At proposal, we found that the current MACT-based standards both provide an ample margin of safety to protect public health and prevent adverse environmental effects, and, therefore, did not make any changes to the existing standards due to the risk analysis. We found that three facilities had MIR greater than 1-in-1 million (values of 10-, 20-, and 20-in-1 million) for the MTVLO source category. We identified two facilities with facility-wide MIR greater than 100–in-1 million (each with values of 200). Using new data obtained since proposal, we corrected the errors noted by the commenters for both MTVLO emission sources and other emission sources at the facilities. We found incorrect latitudes and longitudes for some emission sources, incorrect emissions reported for some sources, or incorrectly identified HAP. We updated the 2005 NEI data sets for each facility with corrected data, and conducted a reanalysis of the risk using the corrected data set. The revised risk assessment results show no facilities with MTVLO have a facility-wide risk of greater than 100-in-1 million.[11] Based on 2005 emissions data, MTVLO source category emissions from one facility result in a MIR of 50-in-1 million (20 percent from benzene and 80 percent from butadiene), however, this facility reports in its public comments an 89- percent reduction in benzene emissions and a 97-percent reduction in butadiene emissions between years 2006 and 2009. Based on this information, the revised MIR associated with actual MTVLO emissions from this facility is less than 1-in-1 million.[12] No other facility has MTVLO emissions resulting in a MIR greater than 1-in-1 million. The corrections to the emission data files and risk results are included in memoranda in the docket.

Comment: One commenter noted that it is not clear whether offshore loading terminals at refineries would be exempt from proposed changes to MTVLO MACT. The commenter recommended rule text changes for 40 CFR 63.560(d)(6). The commenter noted that their facility may be one of the few (or only) offshore loading terminals in the United States, meaning the cost analysis and controls selected for this subcategory by the MTVLO MACT proposal are likely to set a precedent in the Refinery RTR rule process.

[11] Of the two facilities with MTVLO that previously showed facility-wide risks exceeding 100-in-1 million, the revised risk assessment results show one facility has facility-wide risks of 70-in-1 million, and the other has facility-wide risks of 40-in-1 million.

[12] For this facility, reported actual and allowable emission are the same; therefore, the MIR is the same for both.

Response: We have considered the comment and agree that the proposed rule was not clear. Therefore, this final rule clarifies applicability for petroleum refineries.

Comment: Three commenters supported submerged fill requirements. One commenter supported the requirement for submerged fill for previously-exempt subcategories, and stated that submerged fill is cost-effective. One commenter agreed with EPA's decision to establish submerged fill as the MACT floor. The Commenter noted that submerged fill, as defined by the Coast Guard, has been standard industry practice for some time, reduces HAP emissions, and eliminates static electricity from free-falling cargo, thereby enhancing operational safety. One commenter suggested that if additional control is needed, a work practice standard (submerged fill) should be adopted for the offshore loading subcategory instead of 99-percent efficient vapor control systems.

Response: The commenters agree with the proposal to require submerged fill as the floor level of control for the two subcategories not previously regulated (those facilities emitting less than 10/25 TPY of HAP from MTVLO, and those facilities located more than 0.5 miles from shore). We have included the submerged fill requirement in the final rule.

Comment: One commenter noted the discussion in the preamble is confusing concerning whether the proposed 1 million bbl/yr threshold is a MACT measure, or a reasonably available control technology (RACT) measure. The preamble states that the existing MACT standards require vapor recovery control for at least 10 million bbl/yr of gasoline, however, this provision is in the RACT provisions of the existing rule. Furthermore, the commenter asserts that the proposal preamble justifies the proposed new 1 million bbl/yr threshold on a volatile organic compounds (VOC) RACT basis rather than a HAP (MACT) basis, and describes the lower threshold as a beyond-the-floor MACT measure for the two previously-exempt subcategories. In addition, the commenter noted that the throughput threshold for a major source is 5 million bbl/yr, and asked how a facility only loading 1 million bbl/yr could be considered a major source, and subject to MACT. The commenter stated that the preamble discussion should be consistent with both the basis presented for justification of this measure, and the language of the rule.

Response: The proposed and final rules only pertain to the MACT requirements in the rule that address major sources of HAP; no changes were proposed for the RACT requirements.[13] While the commenter noted that a particular throughput would be required to define a major source of HAP, the throughput levels for MTVLO were not defined with the intent of identifying a major source. Applicability for the current rule is two-fold: (1) Is the facility, as a whole, a major source of HAP; and (2) does the facility conduct MTVLO.

We agree that the discussion in the proposed preamble regarding the gasoline throughput thresholds used to analyze the proposed 1 million bbl/yr gasoline threshold was not clear (75 FR 65115). As discussed below, we have not included a requirement for MTVLO facilities with a throughput of 1 million bbl/yr of gasoline to install and operate vapor recovery controls in the final rule.

Comment: Two commenters stated that EPA's cost-effectiveness determination for the beyond-the-floor MACT is flawed/not accurate, and noted concerns that the cost analysis is based on information from one vendor, for one control technology, for a single facility, and assumed installation costs. One commenter stated that EPA's cost information was limited. One commenter indicated that beyond-the-floor MACT options must be cost-effective in reducing HAP, and since EPA's estimated cost was $74,000/ton HAP emissions reduced, it is not cost-effective, and, thus, illegal to promulgate this requirement as a MACT measure. The commenter stated that the real cost, based on corrected values of HAP content, would be $180,000/ton HAP emissions reduced. The commenter requested that EPA rescind the proposed action.

Commenters stated that the EPA does not have the authority to consider non-HAP emission reductions in conducting a review of existing MACT standards under CAA section 112(d). The commenters noted that, in setting MACT standards, the CAA expressly forbids EPA from considering the co-benefits of non-HAP emissions reductions, and the MACT floor must be based on the HAP emission reductions achieved; any beyond-the-floor standard may be based only on consideration of the cost of achieving HAP emission reductions, and any non-air quality health and environmental impacts and energy requirements.

Response: As discussed earlier, we established and proposed the MACT floor as submerged fill for the two subcategories not previously regulated (facilities emitting less than 10/25 TPY of HAP from MTVLO, and those "offshore" facilities located more than 0.5 miles from shore). Additionally, under the CAA section 112(d)(6) technology review of the existing MTVLO MACT, and as setting the beyond-the-floor MACT standards for the two subcategories not previously regulated, we proposed that existing facilities loading 1 million bbl/yr of gasoline, install vapor controls either meeting 97-percent control, or the equivalent emission limit of 10 mg/l (10 milligrams of total organic compound emissions per liter of gasoline loaded). At proposal, we estimated the cost and emissions reductions for installing vapor controls for facilities loading 1 million bbl/yr of gasoline, and we estimated a cost of $74,000/ton HAP emissions reduction (190 TPY HAP emissions reduction) and $5,500/ton VOC emissions reduction (2,600 TPY VOC emissions reduction).

As discussed in the cost section of the response to comment and the cost memoranda in the docket, we received and considered the comments on the control costs, emission rate differences for ships and barges, additional costs for offshore facilities, and the HAP content in gasoline. All those factors change the cost-effectiveness calculations. Based on information received as part of the comments, we reevaluated the costs used at proposal. The revised costs and emissions for the proposed threshold of 1 million bbl/yr gasoline are as high as $500,000 per ton of HAP emissions reduced (1.9 tons of HAP reduced annually per facility) for loading ships offshore. Looking at a less stringent threshold for the final rule of 7 million bbl/yr of gasoline loaded would likely achieve little or no HAP or VOC emission reductions, since many facilities near that threshold were required to install controls under the current rule. We agree with commenters that these costs are unreasonable. Therefore, we are not including the proposed vapor controls for loading 1 million bbl/yr of gasoline requirement in the final rule. We disagree with the commenter that we cannot consider VOC benefits, but, given that we are not requiring these additional vapor controls for HAP, the issue is now moot.

Comment: One commenter stated that VOC and HAP emission rates from ships and barges at their facility are lower than EPA uses in its cost-effectiveness determinations. EPA used the uncontrolled gasoline loading emissions factor for barges (3.4 pounds (lb) VOC/1,000 gallons (gal) loaded), but should

[13] RACT and MACT requirements are both included in 40 CFR part 63, subpart Y—National Emission Standards of Marine Tank Vessel Loading Operations.

use the emissions factor for ocean-going ships and barges (1.8 lb VOC/1,000 gal loaded); AP–42 notes in Chapter 5 that vapor saturation is much lower in ship and barge loading.

Response: We agree with the commenter that the emission factors for ships and barges, as applicable to the type of marine vessel being loaded, should be considered for estimating VOC and HAP emissions. We have revised the emission estimates using the barge and ship emission factors from AP–42.

Comment: One commenter noted that HAP content in the vapor phase is 3.0 percent, and not the 7.3 percent determined by EPA in the proposal. The commenter provided the analysis showing the calculations, based on conventional gasoline, where the commenter assumed no methyl tertiary butyl ether (MTBE) in the gasoline; no change to the total partial pressure; and benzene concentration of 1.8 percent. Another commenter stated the HAP emissions factor is approximately 50 percent of the EPA factor.

Response: In the proposal, we determined that the HAP content in the vapor phase of gasoline of 7.3 percent (based on 2006 gasoline composition) was appropriate, and used 7.3 percent in our emissions estimates for gasoline loading at MTVLO. We reviewed and considered the data provided by the commenter, and reviewed HAP content information from several other sources that have more recent gasoline composition data. We conducted a reanalysis of the HAP content, looking at both conventional and reformulated gasoline, considering the phase-out of MTBE and the requirements for reduced benzene content. Based on the revised analysis, we concluded that a good typical value for HAP content in the vapor is 5.0 percent. The revised analysis of HAP content in gasoline is in a memorandum in the docket.

Comment: Commenters argued that lean oil absorption technology is not capable of meeting the rule efficiency, is not in common use for MTVLO, and must be demonstrated as an effective technology for MTVLO. One commenter cited an instance where lean oil absorption installed on MTVLO was unable to meet control requirements in their permit. The commenter stated that lean oil absorption is typically used in smaller applications. Commenters stated that EPA must provide actual performance data for lean oil absorption technology in the MTVLO source category.

Response: Lean oil absorption systems are not new control technologies for MTVLO. Lean oil absorption was discussed as a vapor recovery device, in addition to refrigeration (condenser) systems and carbon adsorption systems, for marine vessel loading in the 1987 *National Research Council, Committee on Control and Recovery of Hydrocarbons Vapors from Ships and Barges* report, *Controlling Hydrocarbon Emissions from Tank Vessel Loading.* Lean oil absorption also was discussed in the 1992 proposal, *Technical Support Document for MTVLO* (EPA–450/3–92–001a), and has been installed as vapor recovery devices for MTVLO. While we have not selected a beyond-the-floor option as MACT, we would like to clarify that lean oil absorption systems were included in the cost analysis for the beyond-the-floor option, because lean oil absorption systems achieving an emission reduction efficiency of 97 percent are used by at least one MTVLO facility, and because the units are a relatively less expensive control technology option that has the added benefit of recovered product.

D. Startup, Shutdown, and Malfunction (SSM) Requirements

Comment: Two commenters state that EPA offers little support for the assertion that it is reasonable to interpret CAA section 112 as not requiring EPA to account for malfunctions in setting emissions standards, or that malfunctions are not a distinct operating mode. The commenters state that it does not make sense for EPA to assert that malfunctions are part of normal operations, but then exclude emissions from these parts of normal operations in the determination of the emissions limits. The commenters state that, due to the unplanned nature and variety of potential malfunctions, it would be difficult, if not impossible, for EPA to gather data and set an emissions standard for periods of malfunction. Due to these difficulties, the commenters suggest that, under the authority of CAA section 112(h), EPA prescribe alternative design, equipment, work practice, or operational standards where it is not feasible to set or enforce a numerical emissions limit. The commenters add that there are work practices that can be identified as being the best to minimize emissions during a malfunction, and EPA must acknowledge the fact that even the best-performing sources experience malfunction events.

Response: EPA has determined that CAA section 112 does not require that emissions that occur during periods of malfunction be factored into development of CAA section 112 standards. Under CAA section 112, emissions standards for new sources must be no less stringent than the level "achieved" by the best controlled similar source, and for existing sources, generally, must be no less stringent than the average emission limitation "achieved" by the best performing 12 percent of sources in the category. There is nothing in CAA section 112 that directs the Agency to consider malfunctions in determining the level "achieved" by the best performing or best controlled sources when setting emission standards. Moreover, while EPA accounts for variability in setting emissions standards consistent with the CAA section 112 case law, nothing in that case law requires the Agency to consider malfunctions as part of that analysis.

CAA section 112 uses the concept of "best controlled" and "best performing" unit in defining the level of stringency that CAA section 112 performance standards must meet. Applying the concept of "best controlled" or "best performing" to a unit that is malfunctioning presents significant difficulties, as malfunctions are sudden and unexpected events. Accounting for malfunctions would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category, and given the difficulties associated with predicting or accounting for the frequency, degree, and duration of various malfunctions that might occur. As such, the performance of units that are malfunctioning is not "reasonably" foreseeable. See, *e.g., Sierra Club* v. *EPA,* 167 F. 3d 658, 662 (D.C. Cir. 1999) (EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to "invest the resources to conduct the perfect study."). See also, *Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (D.C. Cir. 1978) ("In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation."). In addition, the goal of a best controlled or best performing source is to operate in such a way as to avoid malfunctions of the source, and accounting for malfunctions could lead

to standards that are significantly less stringent than levels that are achieved by a well-performing non-malfunctioning source. EPA's approach to malfunctions is consistent with CAA section 112, and is a reasonable interpretation of the statute.

Comment: Several commenters argued that emissions limits should not apply during SSM events, while other commenters stated that SSM emissions should be included in calculations of emissions and standards. Commenters suggested that requiring continuous compliance during periods of SSM constitutes beyond-the-floor requirements, and the Agency should have to justify this more stringent level of control, because facilities would need to install redundant control systems and bypass systems. They further stated that, in order to assure that SSM are appropriately accommodated, EPA must either assure that the data on which the standard is based include representative data from such periods, or, alternatively, set a separate work practice standard to properly accommodate SSM, and they cited case law supporting establishment of special SSM provisions. Further, several commenters stated that compliance with emissions standards during malfunction events will be difficult to gauge since emissions testing during such events is nearly impossible, given the sporadic and unpredictable nature of malfunctions. The commenters contended that the rules could have the effect of forcing units to choose between safety and compliance with emissions requirements. The commenters stated that, for some affected units, malfunctions, by their very nature, create unsafe conditions which can lead to excessive combustible mixtures that can result in explosions, equipment damage, and personnel hazards. Commenters also noted that some of the MACT standards included in this action did not rely exclusively upon the General Provisions, and, thus, were not immediately affected by the Court's vacatur of the SSM exemptions in the General Provisions. The commenters pointed out that, given that these categories were not immediately affected, EPA is not compelled to remove the exemptions that are established within these individual category-specific MACT standards.

Other commenters expressed support for requiring continuous compliance with the MACT standards, including periods of SSM. They noted that malfunctions are also preventable, and, thus, there should be no relief from the standards during these events.

Response: At this time, we are not promulgating separate emission standards for periods of startup and shutdown for three of the four categories addressed in this rule, because we believe compliance with the standards is achievable during these periods. In the case of the Pharmaceuticals Production MACT standards, we expect the difference in emission levels during periods of startup and shutdown are insignificant, and that facilities in this source category should be able to comply with the standards during these times. In the case of the Printing and Publishing MACT standards, we believe there are sufficiently long averaging times incorporated into the emissions limits that facilities should be able to comply during periods of startup and shutdown. In the case of MTVLO, loading of marine tank vessels occurs in "batches," and general practice is for the loading operators to test out the vapor control system before it is attached to the tank vessel. In the case of Group I Polymers and Resins, one commenter stated that organic HAP emissions that are required to be sent to emissions control equipment (*i.e.*, flares) may not be able to comply with the MACT standards during periods of shutdown. The commenter stated that they may not always be able to route some of their process vents to a flare during periods of shutdown due to low pressure or low heat content in the process vent. EPA agrees with the commenter that it is not possible to comply with the applicable standard during periods of shutdown, and is establishing alternative emissions standards that apply during these periods.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. However, by contrast, malfunction is defined as a "sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner * * *" (40 CFR 60.2). EPA has determined that malfunctions should not be viewed as a distinct operating mode, and, therefore, any emissions that occur at such times do not need to be factored into development of CAA section 112 standards, which, once promulgated, apply at all times. Also refer to section III.E of this preamble, and the response to comments document available in the docket for this action for additional discussion of this issue.

Comment: Commenters on the Group I Polymers and Resins MACT disagreed with EPA's statement that the proposed rules will reduce the reporting burden associated with having to prepare and submit an SSM report. The commenters also state that the claims EPA makes that EPA is not proposing any new paperwork requirements is false if a facility wants to claim an affirmative defense. The affirmative defense provision contains much more onerous reporting and implied recordkeeping requirements than the existing rules. The commenters state that EPA needs to account for the information collection burden associated with affirmative defense in the Information Collection Request (ICR) for the SSM portion of the Group I Polymers and Resins MACT, and otherwise comply with the Paperwork Reduction Act.

Response: As discussed in section VII.B of this preamble, EPA is providing the public with an estimate of the relative magnitude of the burden associated with an assertion of the affirmative defense position adopted by a source, and is providing administrative adjustments to the ICR for the MACT standards subject to these final rules that show what the notification, recordkeeping, and reporting requirements associated with the assertion of the affirmative defense might entail.

Comment: Two commenters note that, in making changes to the rules to exclude the SSM exemption and add the general duty clause to the MACT standards, three of the six MACT standards in the proposal include the statement that "the general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by this standard have been achieved," but the other three do not (*i.e.*, Group I Polymers and Resins, MTLVO, and Printing and Publishing Industry MACT standards). The commenters state that this clarifying language should be included in all six standards.

Response: We agree that this language should be included in each of the six MACT standards, and we have added this clarifying language to 40 CFR 63.823(b) in the Printing and Publishing Industry MACT standards and 40 CFR 63.562(e) in the MTVLO MACT standards. However, we find that 40 CFR 63.483 in the Group 1 Polymers and Resins MACT standards already includes this language, and we have not revised the proposed language.

VI. Impacts of the Final Rules

The final changes to the Group I Polymers and Resins, MTVLO, Pharmaceuticals Production, and the Printing and Publishing Industry MACT standards are not estimated to have any significant emission reductions, costs, or other impacts.

VII. Statutory and Executive Order Reviews

A. Executive Orders 12866: Regulatory Planning and Review, and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a "significant regulatory action." This action is a significant regulatory action because it raises novel legal and policy issues. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Order 12866 and Executive Order 13563 (76 FR 3821, January 21, 2011), and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in the final rules have been submitted for approval to 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.

These final rules would require maintenance inspections of the control devices, but would 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.

When a malfunction occurs, sources must report them according to the applicable reporting requirements of 40 CFR part 63, subparts U, Y, KK, and GGG. An affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions is available to a source if it can demonstrate that certain criteria and requirements are satisfied. The criteria ensure that the affirmative defense is available only where the event that causes an exceedance of the emission limit meets the narrow definition of malfunction in 40 CFR 63.2 (sudden, infrequent, not reasonable preventable, and not caused by poor maintenance and or careless operation) and where the source took necessary actions to minimize emissions. In addition, the source must meet certain notification and reporting requirements. For example, the source must prepare a written root cause analysis and submit a written report to the Administrator documenting that it has met the conditions and requirements for assertion of the affirmative defense.

For two of the rules promulgated, National Emissions Standards for Group I Polymers and Resins (Butyl Rubber Production, Epichlorohydrin Elastomers Production, Ethylene Propylene Rubber Production, Hypalon™ Production, Neoprene Production, NBR Production, Polybutadiene Rubber Production, Polysulfide Rubber Production, and Styrene Butadiene Rubber and Latex Production); and Pharmaceuticals Production, EPA is adding affirmative defense to the estimate of burden in the ICR. To provide the public with an estimate of the relative magnitude of the burden associated with an assertion of the affirmative defense position adopted by a source, EPA has provided administrative adjustments to these two ICR that show what the notification, recordkeeping, and reporting requirements associated with the assertion of the affirmative defense might entail. EPA's estimate for the required notification, reports, and records, including the root cause analysis, totals $3,141, and is based on the time and effort required of a source to review relevant data, interview plant employees, and document the events surrounding a malfunction that has caused an exceedance of an emission limit. The estimate also includes time to produce and retain the record and reports for submission to EPA. EPA provides this illustrative estimate of this burden, because these costs are only incurred if there has been a violation, and a source chooses to take advantage of the affirmative defense.

Given the variety of circumstances under which malfunctions could occur, as well as differences among sources' operation and maintenance practices, we cannot reliably predict the severity and frequency of malfunction-related excess emissions events for a particular source. It is important to note that EPA has no basis currently for estimating the number of malfunctions that would qualify for an affirmative defense. Current historical records would be an inappropriate basis, as source owners or operators previously operated their facilities in recognition that they were exempt from the requirement to comply with emissions standards during malfunctions. Of the number of excess emission events reported by source operators, only a small number would be expected to result from a malfunction (based on the definition above), and only a subset of excess emissions caused by malfunctions would result in the source choosing to assert the affirmative defense. Thus, we believe the number of instances in which source operators might be expected to avail themselves of the affirmative defense will be extremely small. For this reason, we estimate no more than 2 or 3 such occurrences for all sources subject to 40 CFR part 63, subparts U and GGG over the 3-year period covered by this ICR. We expect to gather information on such events in the future, and will revise this estimate as better information becomes available.

With respect to MTVLO and Printing and Publishing source categories, operations would not proceed or continue if there is a malfunction of a control device, and, thus, it is unlikely that a control device malfunction would cause an exceedance of any emission limit. The existing MTVLO rule requires the vapor displaced during loading of the vessel be sent to vapor processors that meet specified efficiency standards. In discussions with industry, and at plant visits, the industry reports that marine vessels are not allowed to start loading until the vapor collection and processor system has been thoroughly checked for proper operation. If the loading equipment, and the vapor collection and possessor system are not properly operating, the vessel is not allowed to load. In addition, if processor system settings are not maintained during vessel loading, loading is automatically stopped. Therefore, we believe there is no burden to the industry for the affirmative defense provisions added to the final rule. Additionally, an ICR document (number 1679.08) was prepared and submitted for the October 21, 2010, proposed rule that included burdens associated with testing, reporting, and recordkeeping for the proposed lowering of the threshold for when additional vapor collection and processor systems are required. In this action we are not requiring the lower threshold for additional vapor collection and processor systems. However, submerged fill requirements are added in the final rule, and are already being met under Coast Guard rules; thus, there is no additional ICR burden associated with the final rule for MTVLO.

For Printing and Publishing, we do not believe that printing and publishing

facilities have excess emissions caused by malfunctions. Printing presses and control devices are interlocked. If the control device is not operating, the press cannot start printing. If the control device stops operating, the press stops printing. Also, given the characteristics of the affected units at printing and publishing sources, EPA does not believe that any other type of malfunction could conceivably cause excess emissions.

Therefore, sources within these two source categories are not expected to have any need or use for the affirmative defense. Thus, for these source categories, EPA is not assigning any burden associated with affirmative defense.

For the Group I Polymers and Resins MACT standards, an ICR document prepared by EPA for the amendments to the standards has been assigned EPA ICR number 2410.02, which has been revised since the proposed estimate assigned EPA ICR number 2410.01. Burden changes associated with these amendments result from the reporting and recordkeeping requirements of the affirmative defense provisions added to the rule; the reporting and recordkeeping requirements associated with the new back-end process operation emission limits for Epichlorohydrin Elastomers, Neoprene Rubber, NBR, and Butyl Rubber Production source categories; and the reporting and recordkeeping requirements associated with the new HCl emission limits for the front-end process vents for the Ethylene Propylene Rubber and Butyl Rubber Production source categories. The respondents' annual reporting and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the standards) for these amendments is estimated to be 251 labor hours at a cost of $12,222 per year. The annual burden for the Federal government (averaged over the first 3 years after the effective date of the standard) for these amendments is estimated to be 9 labor hours at a cost of $408 per year.

For the Pharmaceuticals Production MACT standards ICR document prepared by EPA, which has been revised to include the amendments to the standards, has been assigned EPA ICR number 1781.06. Burden changes associated with these amendments result from the reporting and recordkeeping requirements of the affirmative defense provisions added to the rule. The change in respondents' annual reporting and recordkeeping burden associated with these amendments for this collection (averaged over the first 3 years after the effective date of the standards) is estimated to be 20 labor hours at a cost of $2,094 per year. There is no estimated change in annual burden to the Federal government for these amendments.

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 in 40 CFR are listed in 40 CFR part 9. When these ICR are approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control numbers for the approved information collection requirements contained in the final rules.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (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 impact of these final rules on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; 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.

After considering the economic impacts of these final rules on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This final action will not impose any requirements on small entities. These final rules will not change the level of any emission standard, or impose emission measurements or reporting requirements on small entities beyond those specified in existing regulations.

D. Unfunded Mandates Reform Act

These rules do 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 one year. Thus, these rules are not subject to the requirements of sections 202 or 205 of UMRA.

These rules are also not subject to the regulatory requirements that might significantly or uniquely affect small governments. They contain no requirements that apply to such governments or impose obligations upon them.

E. Executive Order 13132: Federalism

This action 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. These final rules primarily affect private industry, and do not impose significant economic costs on State or local governments. Thus, Executive Order 13132 does not apply to this action.

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

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have substantial direct effect on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this action.

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

This action is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997), because it is not economically significant as defined in Executive Order 12866, and because the Agency does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action will not relax the control measures on existing regulated sources, and EPA's risk assessments (included in the docket for the proposed rules) demonstrate that the existing regulations are health protective.

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

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a

significant adverse energy effect on the supply, distribution, or use of energy. This action will not create any new requirements for sources in the energy supply, distribution, or use sectors. Further, we have concluded that these final rules are not likely to have any adverse energy effects.

I. National Technology Transfer and Advancement Act

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

This action does not involve technical standards. Therefore, EPA did not consider the use of any VCS.

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

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

EPA has determined that these final rules will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations, because they do not affect the level of protection provided to human health or the environment. To examine the potential for any environmental justice issues that might be associated with each source category, we evaluated the distributions of HAP-related cancer and non-cancer risks across different social, demographic, and economic groups within the populations living near the facilities where these source categories are located. Our analyses also show that, for all the source categories evaluated, there is no potential for an adverse environmental effect or human health multipathway effects, and that acute and chronic non-cancer health impacts are unlikely. Our additional analysis of facility-wide risks showed that the maximum facility-wide cancer risks for all source categories are within the range of acceptable risks, and that the maximum chronic non-cancer risks are unlikely to cause health impacts. Our additional analysis of the demographics of the exposed population may show disparities in risks between demographic groups for all three categories, but EPA has determined that, although there may be a disparity in risks between demographic groups, no group is exposed to unacceptable level of risk.

The rules will not relax the control measures on emissions sources regulated by the rules, and, therefore, will not increase risks to any populations exposed to these emissions sources.

K. 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. EPA will submit a report containing these final rules 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 rules 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). The final rules will be effective on April 21, 2011.

List of Subjects for 40 CFR Part 63

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: March 31, 2011.

Lisa P. Jackson,

Administrator.

For the reasons stated in the preamble, the Environmental Protection Agency amends title 40, chapter I, of the Code of Federal Regulations 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 U—[Amended]

■ 2. Section 63.480 is amended by revising paragraph (j) to read as follows:

§ 63.480 Applicability and designation of affected sources.

* * * * *

(j) *Applicability of this subpart.* Paragraphs (j)(1) through (4) of this section shall be followed during periods of non-operation of the affected source or any part thereof.

(1) The emission limitations set forth in this subpart and the emission limitations referred to in this subpart shall apply at all times except during periods of non-operation of the affected source (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. However, if a period of non-operation of one portion of an affected source does not affect the ability of a particular emission point to comply with the emission limitations to which it is subject, then that emission point shall still be required to comply with the applicable emission limitations of this subpart during the period of non-operation. For example, if there is an overpressure in the reactor area, a storage vessel that is part of the affected source would still be required to be controlled in accordance with the emission limitations in § 63.484.

(2) The emission limitations set forth in subpart H of this part, as referred to in § 63.502, shall apply at all times, except during periods of non-operation of the affected source (or specific portion thereof) in which the lines are drained and depressurized, resulting in cessation of the emissions to which § 63.502 applies.

(3) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with this subpart during times when emissions (or, where applicable, wastewater streams or residuals) are being routed to such items of equipment if the shutdown would contravene requirements of this subpart applicable to such items of equipment.

(4) In response to an action to enforce the standards set forth in this subpart, an owner or operator may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by a malfunction, as defined in § 63.2. Appropriate penalties may be assessed, however, if the owner or operator fails to meet the burden of proving all the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(i) To establish the affirmative defense in any action to enforce such a limit, the owners or operators of a facility must timely meet the notification requirements of paragraph (j)(4)(ii) of this section, and must prove by a preponderance of evidence that:

(A) The excess emissions were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, or a process to operate in a normal and usual manner; and could not have been prevented through careful planning, proper design, or better operation and maintenance practices; did not stem from any activity or event that could have been foreseen and avoided, or planned for; and were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(B) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs;

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

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

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

(F) All emissions monitoring and control systems were kept in operation, if at all possible, consistent with safety and good air pollution control practices;

(G) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs;

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

(I) The owner or operator has prepared a written root cause analysis, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using the best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(ii) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in this subpart to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (j)(4)(i) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

■ 3. Section 63.481 is amended by revising paragraph (c) to read as follows:

§ 63.481 Compliance dates and relationship of this subpart to existing applicable rules.

* * * * *

(c) With the exceptions provided in paragraphs (c)(1) through (3) of this section, existing affected sources shall be in compliance with this subpart no later than June 19, 2001, as provided in § 63.6(c), unless an extension has been granted as specified in paragraph (e) of this section.

(1) Existing affected sources producing epichlorohydrin elastomer, butyl rubber, neoprene rubber, and nitrile butadiene rubber shall be in compliance with the applicable emission limitation in § 63.494(a)(4) no later than April 23, 2012.

(2) Existing affected sources producing butyl rubber and ethylene propylene rubber shall be in compliance with § 63.485(q)(1) no later than April 23, 2012.

(3) Compliance with § 63.502 is covered by paragraph (d) of this section.

* * * * *

■ 4. Section 63.482 is amended by removing the definition of "halobutyl rubber," adding in alphabetical order a definition for "affirmative defense," revising the definitions of "back-end," "butyl rubber," "elastomer product," "initial start-up," and "product" in paragraph (b) to read as follows:

§ 63.482 Definitions.

* * * * *

(b) * * *

Affirmative defense means, in the context of an enforcement proceeding, a response or a defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

* * * * *

Back-end refers to the unit operations in an EPPU following the stripping operations. Back-end process operations include, but are not limited to, filtering, coagulation, blending, concentration, drying, separating, and other finishing operations, as well as latex and crumb storage. Back-end does not include storage and loading of finished product or emission points that are regulated under §§ 63.484, 63.501, or 63.502 of this subpart.

* * * * *

Butyl rubber means a copolymer of isobutylene and other monomers. Typical other monomers include isoprene and methylstyrene. A typical composition of butyl rubber is approximately 85- to 99-percent isobutylene, and 1- to 15-percent other monomers. Most butyl rubber is produced by precipitation polymerization, although other methods may be used. Halobutyl rubber is a type of butyl rubber elastomer produced using halogenated copolymers.

* * * * *

Elastomer product means one of the following types of products, as they are defined in this section:

(1) Butyl Rubber;
(2) Epichlorohydrin Elastomer;
(3) Ethylene Propylene Rubber;
(4) Hypalon ™;
(5) Neoprene;
(6) Nitrile Butadiene Rubber;
(7) Nitrile Butadiene Latex;
(8) Polybutadiene Rubber/Styrene Butadiene Rubber by Solution;
(9) Polysulfide Rubber;
(10) Styrene Butadiene Rubber by Emulsion; and
(11) Styrene Butadiene Latex.

* * * * *

Initial start-up means the first time a new or reconstructed affected source begins production of an elastomer product, or, for equipment added or changed as described in § 63.480(i), the first time the equipment is put into operation to produce an elastomer product. Initial start-up does not include operation solely for testing equipment. Initial start-up does not include subsequent start-ups of an affected source or portion thereof

following shutdowns, or following changes in product for flexible operation units, or following recharging of equipment in batch operation.

* * * * *

Product means a polymer produced using the same monomers, and varying in additives (*e.g.*, initiators, terminators, etc.); catalysts; or in the relative proportions of monomers, that is manufactured by a process unit. With respect to polymers, more than one recipe may be used to produce the same product, and there can be more than one grade of a product. As an example, styrene butadiene latex and butyl rubber each represent a different product. Product also means a chemical that is not a polymer, is manufactured by a process unit. By-products, isolated intermediates, impurities, wastes, and trace contaminants are not considered products.

* * * * *

■ 5. Section 63.483 is amended by revising paragraph (a) to read as follows:

§ 63.483 Emission standards.

(a) At all times, each owner or operator must operate and maintain any affected source subject to the requirements of this subpart, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. Except as allowed under paragraphs (b) through (d) of this section, the owner or operator of an existing or new affected source shall comply with the provisions in:

(1) Section 63.484 for storage vessels;

(2) Section 63.485 for continuous front-end process vents;

(3) Sections 63.486 through 63.492 for batch front-end process vents;

(4) Sections 63.493 through 63.500 for back-end process operations;

(5) Section 63.501 for wastewater;

(6) Section 63.502 for equipment leaks;

(7) Section 63.504 for additional test methods and procedures;

(8) Section 63.505 for monitoring levels and excursions; and

(9) Section 63.506 for general reporting and recordkeeping requirements.

* * * * *

■ 6. Section 63.484 is amended by revising paragraph (b)(4) to read as follows:

§ 63.484 Storage vessel provisions.

* * * * *

(b) * * *

(4) Storage vessels located downstream of the stripping operations at affected sources subject to the back-end residual organic HAP limitation located in § 63.494(a)(1) through (3), that are complying through the use of stripping technology, as specified in § 63.495;

* * * * *

■ 7. Section 63.485 is amended by:

■ a. Revising paragraphs (q) introductory text, and (q)(1) introductory text;

■ b. Adding paragraphs (q)(1)(iii) through (q)(1)(vi); and

■ c. Adding paragraph (w) to read as follows:

§ 63.485 Continuous front-end process vent provisions.

* * * * *

(q) Group 1 halogenated continuous front-end process vents must comply with the provisions of § 63.113(a)(1)(ii) and § 63.113(c), with the exceptions noted in paragraphs (q)(1) and (2) of this section.

(1) Group I halogenated continuous front-end process vents at existing affected sources producing butyl rubber or ethylene propylene rubber using a solution process are exempt from the provisions of § 63.113(a)(1)(ii) and § 63.113(c) if the conditions in paragraphs (q)(1)(i) and (ii) of this section are met, and shall comply with the requirements in paragraphs (q)(1)(iii) through (vi) of this section. Group I halogenated continuous front-end process vents at new affected sources producing butyl rubber or ethylene propylene rubber using a solution process are not exempt from § 63.113(a)(1)(ii) and § 63.113(c).

* * * * *

(iii) The average HCl emissions from all front-end process operations at affected sources producing butyl rubber and ethylene propylene rubber using a solution process shall not exceed the limits determined in accordance with paragraphs (q)(1)(iii)(A) and (B) of this section for any consecutive 12-month period. The specific limitation for each elastomer type shall be determined based on the calculation or the emissions level provided in paragraphs (q)(1)(iii)(A) and (B) of this section divided by the base year elastomer product that leaves the stripping operation (or the reactor(s), if the plant has no stripper(s)). The limitation shall be calculated and submitted in accordance with paragraph (q)(1)(iv) of this section.

(A) For butyl rubber, the HCl emission limitation shall be calculated using the following equation:

$$BRHClEL = \frac{HCl_{2010}}{P_{2010}} * 1.74$$

Where:

HCl_{2010} = HCl emissions in 2010, megagrams per year (Mg/yr)

BRHClEL = Butyl rubber HCl emission limit, Mg HCl emissions/Mg butyl rubber produced

P_{2010} = Total elastomer product leaving the stripper in 2010, Mg/yr

1.74 = variability factor, unitless

(B) For ethylene propylene rubber using a solution process, the HCl emission limitation, in units of Mg HCl emissions per Mg of ethylene propylene rubber produced, shall be calculated by dividing 27 Mg/yr by the mass of ethylene propylene rubber produced in 2010, in Mg.

(iv) If the front-end process operation is subject to a HCl emission limitation in paragraph (q)(1)(iii) of this section, the owner and operator must submit the information specified in paragraphs (q)(1)(iv)(A) and (B) of this section.

(A) The applicable HCl emission limitation determined in accordance with paragraphs (q)(1)(iii)(A) and (B) of this section shall be submitted no later than 180 days from the date of publication of the final rule amendments in the **Federal Register**.

(B) Beginning with the first periodic report required to be submitted by § 63.506(e)(6) that is at least 13 months after the compliance date, the total mass of HCl emitted for each of the rolling 12-month periods in the reporting period divided by the total mass of elastomer produced during the corresponding 12-month period, determined in accordance with paragraph (q)(1)(v) of this section.

(v) Compliance with the HCl emission limitations determined in accordance with paragraph (q)(1)(iii) of this section shall be demonstrated in accordance with paragraphs (q)(1)(v)(A) through (E) of this section.

(A) Calculate your HCl emission limitation in accordance with paragraphs (q)(1)(iii)(A) and (B) of this section, as applicable, record it, and submit it in accordance with paragraph (q)(1)(iv) of this section.

(B) Each month, calculate and record the HCl emissions from all front-end process operations using engineering assessment. Engineering assessment includes, but is not limited to, the following:

(*1*) Use of material balances;

(*2*) Estimation of flow rate based on physical equipment design, such as pump or blower capacities;

(*3*) Estimation of HCl concentrations based on saturation conditions; and

(*4*) Estimation of HCl concentrations based on grab samples of the liquid or vapor.

(C) Each month, record the mass of elastomer product produced.

(D) Each month, calculate and record the sum of the HCl emissions and the mass of elastomer produced for the previous calendar 12-month period.

(E) Each month, divide the total mass of HCl emitted for the previous calendar 12-month period by the total mass of elastomer produced during this 12-month period. This value must be recorded in accordance with paragraph (q)(1)(vi) of this section and reported in accordance with paragraph (q)(1)(iv) of this section.

(vi) If the front-end process operation is subject to an HCl emission limitation in paragraph (q)(1)(iii) of this section, the owner or operator shall maintain the records specified in paragraphs (q)(1)(vi)(A) through (D) of this section.

(A) The applicable HCl emission limitation determined in accordance with paragraphs (q)(1)(iii)(A) and (B) of this section.

(B) The HCl emissions from all front-end process operations for each month, along with documentation of all calculations, and other information used in the engineering assessment to estimate these emissions.

(C) The mass of elastomer product produced each month.

(D) The total mass of HCl emitted for each 12-month period divided by the total mass of elastomer produced during the 12-month period, determined in accordance with paragraph (q)(1)(v) of this section.

* * * * *

(w) *Shutdown.* (1) During periods of shutdown, a Group 1 continuous front-end process vent at an existing affected source producing butyl rubber or ethylene propylene rubber using a solution process must be routed to a flare until either the organic HAP concentration in the vent is less than 50 ppmv, or the vent pressure is below 103.421 kPa.

■ 8. Section 63.489 is amended by revising paragraph (b)(4)(ii)(C) to read as follows:

§ 63.489 Batch front-end process vents—monitoring equipment.

* * * * *

(b) * * *

(4) * * *

(ii) * * *

(C) The owner or operator may prepare and implement a gas stream flow determination plan that documents an appropriate method which will be used to determine the gas stream flow. The plan shall require determination of gas stream flow by a method which will at least provide a value for either a representative or the highest gas stream flow anticipated in the scrubber during representative operating conditions. The plan shall include a description of the methodology to be followed and an explanation of how the selected methodology will reliably determine the gas stream flow, and a description of the records that will be maintained to document the determination of gas stream flow. The owner or operator shall maintain the plan as specified in § 63.506(a).

* * * * *

■ 9. Section 63.491 is amended by revising paragraph (e)(2)(ii) to read as follows:

§ 63.491 Batch front-end process vents—recordkeeping requirements.

* * * * *

(e) * * *

(2) * * *

(ii) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in computing the batch cycle daily averages. In addition, monitoring data recorded during periods of non-operation of the EPPU (or specific portion thereof) resulting in cessation of organic HAP emissions shall not be included in computing the batch cycle daily averages.

* * * * *

■ 10. Section 63.493 is revised to read as follows:

§ 63.493 Back-end process provisions.

Owners and operators of new and existing affected sources shall comply with the requirements in §§ 63.494 through 63.500. Owners and operators of affected sources whose only elastomer products are latex products, liquid rubber products, or products produced in a gas-phased reaction process, are not subject to the provisions of §§ 63.494 through 63.500. If latex or liquid rubber products are produced in an affected source that also produces another elastomer product, the provisions of §§ 63.494 through 63.500 do not apply to the back-end operations dedicated to the production of one or more latex products, or to the back-end operations during the production of a latex product. Table 8 to this subpart contains a summary of compliance alternative requirements for the emission limits in § 63.494(a)(1)–(3) and associated requirements.

■ 11. Section 63.494 is amended by:

■ a. Revising the section heading;

■ b. Revising paragraph (a) introductory text;

■ c. Revising paragraph (a)(4);

■ d. Revising paragraph (a)(5) introductory text;

■ e. Adding paragraph (a)(6);

■ f. Revising paragraph (b);

■ g. Revising paragraph (c); and

■ h. Revising paragraph (d) to read as follows:

§ 63.494 Back-end process provisions—residual organic HAP and emission limitations.

(a) The monthly weighted average residual organic HAP content of all grades of styrene butadiene rubber produced by the emulsion process, polybutadiene rubber and styrene butadiene rubber produced by the solution process, and ethylene-propylene rubber produced by the solution process that is processed, shall be measured after the stripping operation (or the reactor(s), if the plant has no stripper(s)), as specified in § 63.495(d), and shall not exceed the limits provided in paragraphs (a)(1) through (3) of this section, as applicable. Owners or operators of these affected sources shall comply with the requirements of paragraphs (a)(1) through (3) of this section using either stripping technology, or control or recovery devices. The organic HAP emissions from all back-end process operations at affected sources producing butyl rubber, epichlorohydrin elastomer, neoprene, and nitrile butadiene rubber shall not exceed the limits determined in accordance with paragraph (a)(4) of this section, as applicable.

* * * * *

(4) The organic HAP emissions from back-end processes at affected sources producing butyl rubber, epichlorohydrin elastomer, neoprene, and nitrile butadiene rubber shall not exceed the limits determined in accordance with paragraphs (a)(4)(i) through (iv) of this section for any consecutive 12-month period. The specific limitation for each elastomer type shall be determined based on the calculation or the emissions level provided in paragraphs (a)(4)(i) through

(iv) of this section divided by the base year elastomer product that leaves the stripping operation (or the reactor(s), if the plant has no stripper(s)). The limitation shall be calculated and submitted in accordance with § 63.499(f)(1).

(i) For butyl rubber, the organic HAP emission limitation shall be calculated using the following equation:

$$BREL = \frac{Ce_{2009} + Be_{2009} + UCe_{2009}}{P_{2009}} * 1.35$$

Where:

Be_{2009} = Bypass emissions in 2009, Mg/yr
BREL = Butyl rubber emission limit, Mg organic HAP emissions/Mg butyl rubber produced
Ce_{2009} = Controlled emissions in 2009, Mg/yr
P_{2009} = Total elastomer product leaving the stripper in 2009, Mg/yr
UCe_{2009} = Uncontrolled emissions in 2009, Mg/yr
1.35 = variability factor, unitless

(ii) For epichlorohydrin elastomer, the organic HAP emission limitation, in units of Mg organic HAP emissions per Mg of epichlorohydrin elastomer produced, shall be calculated by dividing 51 Mg/yr by the mass of epichlorohydrin elastomer produced in 2009, in Mg.

(iii) For neoprene, the organic HAP emission limitation, in units of Mg organic HAP emissions per Mg of neoprene produced, shall be calculated by dividing 30 Mg/yr by the mass of neoprene produced in 2007, in Mg.

(iv) For nitrile butadiene rubber, the organic HAP emission limitation, in units of Mg organic HAP emissions per Mg of nitrile butadiene rubber produced, shall be calculated by dividing 2.4 Mg/yr by the mass of nitrile butadiene rubber produced in 2009, in Mg.

(5) For EPPU that produce both an elastomer product with a residual organic HAP limitation listed in paragraphs (a)(1) through (3) of this section, and a product listed in paragraphs (a)(5)(i) through (iv) of this section, only the residual HAP content of the elastomer product with a residual organic HAP limitation shall be used in determining the monthly average residual organic HAP content.

* * * * *

(6) There are no back-end process operation residual organic HAP or emission limitations for Hypalon ™ and polysulfide rubber production. There are also no back-end process operation residual organic HAP limitations for latex products, liquid rubber products, products produced in a gas-phased reaction process, styrene butadiene rubber produced by any process other than a solution or emulsion process, polybutadiene rubber produced by any process other than a solution process, or ethylene-propylene rubber produced by any process other than a solution process.

(b) If an owner or operator complies with the residual organic HAP limitations in paragraph (a)(1) through (3) of this section using stripping technology, compliance shall be demonstrated in accordance with § 63.495. The owner or operator shall also comply with the recordkeeping provisions in § 63.498, and the reporting provisions in § 63.499.

(c) If an owner or operator complies with the residual organic HAP limitations in paragraph (a)(1) through (3) of this section using control or recovery devices, compliance shall be demonstrated using the procedures in § 63.496. The owner or operator shall also comply with the monitoring provisions in § 63.497, the recordkeeping provisions in § 63.498, and the reporting provisions in § 63.499.

(d) If the owner or operator complies with the residual organic HAP limitations in paragraph (a)(1) through (3) of this section using a flare, the owner or operator of an affected source shall comply with the requirements in § 63.504(c).

■ 12. Section 63.495 is amended by:
■ a. Revising the section heading;
■ b. Revising paragraph (a);
■ c. Revising paragraph (b)(5); and
■ d. Adding paragraph (g) to read as follows:

§ 63.495 Back-end process provisions—procedures to determine compliance with residual organic HAP limitations using stripping technology and organic HAP emissions limitations.

(a) If an owner or operator complies with the residual organic HAP limitations in § 63.494(a)(1) through (3) using stripping technology, compliance shall be demonstrated using the periodic sampling procedures in paragraph (b) of this section, or using the stripper parameter monitoring procedures in paragraph (c) of this section. The owner or operator shall determine the monthly weighted average residual organic HAP content for each month in which any portion of the back-end of an elastomer production process is in operation. A single monthly weighted average shall be determined for all back-end process operations at the affected source.

(b) * * *

(5) The monthly weighted average shall be determined using the equation in paragraph (f) of this section. All representative samples taken and analyzed during the month shall be used in the determination of the monthly weighted average.

* * * * *

(g) Compliance with the organic HAP emission limitations determined in accordance with § 63.494(a)(4) shall be demonstrated in accordance with paragraphs (g)(1) through (5) of this section.

(1) Calculate your organic HAP emission limitation in accordance with § 63.494(a)(4)(i) through (iv), as applicable, record it, and submit it in accordance with § 63.499(f)(1).

(2) Each month, calculate and record the organic HAP emissions from all back-end process operations using engineering assessment. Engineering assessment includes, but is not limited to, the following:

(i) Previous test results, provided the test was representative of current operating practices.

(ii) Bench-scale or pilot-scale test data obtained under conditions representative of current process operating conditions.

(iii) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(A) Use of material balances;

(B) Estimation of flow rate based on physical equipment design, such as pump or blower capacities;

(C) Estimation of organic HAP concentrations based on saturation conditions; and

(D) Estimation of organic HAP concentrations based on grab samples of the liquid or vapor.

(3) Each month, record the mass of elastomer product produced.

(4) Each month, calculate and record the sums of the organic HAP emissions

and the mass of elastomer produced for the previous calendar 12-month period.

(5) Each month, divide the total mass of organic HAP emitted for the previous calendar 12-month period by the total mass of elastomer produced during this 12-month period. This value must be recorded in accordance with § 63.498(e) and reported in accordance with § 63.499(f)(2).

■ 13. Section 63.496 is amended by:
■ a. Revising the section heading;
■ b. Revising paragraph (a);
■ c. Revising paragraph (c)(2); and
■ d. Revising paragraph (d) to read as follows:

§ 63.496 Back-end process provisions—procedures to determine compliance with residual organic HAP limitations using control or recovery devices.

(a) If an owner or operator complies with the residual organic HAP limitations in § 63.494(a)(1) through (3) using control or recovery devices, compliance shall be demonstrated using the procedures in paragraphs (b) and (c) of this section. Previous test results conducted in accordance with paragraphs (b)(1) through (6) of this section may be used to determine compliance in accordance with paragraph (c) of this section.

* * * * *

(c) * * *

(2) A facility is in compliance if the average of the organic HAP contents calculated for all three test runs is below the residual organic HAP limitations in § 63.494(a)(1) through (3).

(d) An owner or operator complying with the residual organic HAP limitations in § 63.494(a)(1) through (3) using a control or recovery device, shall redetermine the compliance status through the requirements described in paragraph (b) of this section whenever process changes are made. The owner or operator shall report the results of the redetermination in accordance with § 63.499(d). For the purposes of this section, a process change is any action that would reasonably be expected to impair the performance of the control or recovery device. For the purposes of this section, the production of an elastomer with a residual organic HAP content greater than the residual organic HAP content of the elastomer used in the compliance demonstration constitutes a process change, unless the overall effect of the change is to reduce organic HAP emissions from the source as a whole. Other examples of process changes may include changes in production capacity or production rate, or removal or addition of equipment. For the purposes of this paragraph, process changes do not include: Process upsets; unintentional, temporary process changes; or changes that reduce the residual organic HAP content of the elastomer.

■ 14. Section 63.497 is amended by:
■ a. Revising the section heading;
■ b. Revising paragraph (a) introductory text; and
■ c. Revising paragraph (d) introductory text to read as follows:

§ 63.497 Back-end process provisions—monitoring provisions for control and recovery devices used to comply with residual organic HAP limitations.

(a) An owner or operator complying with the residual organic HAP limitations in § 63.494(a)(1) through (3) using control or recovery devices, or a combination of stripping and control or recovery devices, shall install the monitoring equipment specified in paragraphs (a)(1) through (6) of this section, as appropriate.

* * * * *

(d) The owner or operator of an affected source with a controlled back-end process vent using a vent system that contains bypass lines that could divert a vent stream away from the control or recovery device used to comply with § 63.494(a)(1) through (3), shall comply with paragraph (d)(1) or (2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

* * * * *

■ 15. Section 63.498 is amended by:
■ a. Revising paragraph (a) introductory text;
■ b. Revising paragraph (a)(3);
■ c. Adding paragraph (a)(4);
■ d. Revising paragraph (b) introductory text;
■ e. Revising paragraph (b)(3);
■ f. Revising paragraph (c) introductory text;
■ g. Revising paragraph (d) introductory text;
■ h. Revising paragraph (d)(5)(ii)(B);
■ i. Revising paragraph (d)(5)(ii)(E); and
■ j. Adding paragraph (e) to read as follows:

§ 63.498 Back-end process provisions—recordkeeping.

(a) Each owner or operator shall maintain the records specified in paragraphs (a)(1) through (4), and paragraphs (b) through (e) of this section, as appropriate.

* * * * *

(3) If the back-end process operation is subject to a residual organic HAP limitation in § 63.494(a)(1) through (3), whether compliance will be achieved by stripping technology, or by control or recovery devices.

(4) If the back-end process operation is subject to an emission limitation in § 63.494(a)(4), the organic HAP emission limitation calculated in accordance with § 63.494(a)(4)(i) through (iv), as applicable.

(b) Each owner or operator of a back-end process operation using stripping technology to comply with a residual organic HAP limitation in § 63.494(a)(1) through (3), and demonstrating compliance using the periodic sampling procedures in § 63.495(b), shall maintain the records specified in paragraph (b)(1), and in paragraph (b)(2) or paragraph (b)(3) of this section, as appropriate.

* * * * *

(3) If the organic HAP contents for all samples analyzed during a month are below the appropriate level in § 63.494(a), the owner or operator may record that all samples were in accordance with the residual organic HAP limitations in § 63.494(a)(1) through (3), rather than calculating and recording a monthly weighted average.

(c) Each owner or operator of a back-end process operation using stripping technology to comply with a residual organic HAP limitation in § 63.494(a)(1) through (3), and demonstrating compliance using the stripper parameter monitoring procedures in § 63.495(c), shall maintain the records specified in paragraphs (c)(1) through (3) of this section.

* * * * *

(d) Each owner or operator of a back-end process operation using control or recovery devices to comply with a residual organic HAP limitation in § 63.494(a)(1) through (3), shall maintain the records specified in paragraphs (d)(1) through (5) of this section. The recordkeeping requirements contained in paragraphs (d)(1) through (4) pertain to the results of the testing required by § 63.496(b), for each of the three required test runs.

* * * * *

(5) * * *

(ii) * * *

(B) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments, shall not be included in computing the hourly or daily averages. In addition, monitoring data recorded during periods of non-operation of the EPPU (or specific portion thereof) resulting in cessation of organic HAP emissions, shall not be included in

computing the hourly or daily averages. Records shall be kept of the times and durations of all such periods and any other periods of process or control device operation when monitors are not operating.

* * * * *

(E) For flares, records of the times and duration of all periods during which the pilot flame is absent, shall be kept rather than daily averages. The records specified in this paragraph are not required during periods when emissions are not routed to the flare.

* * * * *

(e) If the back-end process operation is subject to an organic HAP emission limitation in § 63.494(a)(4), the records specified in paragraphs (e)(1) through (4) of this section.

(1) The applicable organic HAP emission limitation determined in accordance with § 63.494(a)(4)(i) through (iv).

(2) The organic HAP emissions from all back-end process operations for each month, along with documentation of all calculations and other information used in the engineering assessment to estimate these emissions.

(3) The mass of elastomer product produced each month.

(4) The total mass of organic HAP emitted for each 12-month period divided by the total mass of elastomer produced during the 12-month period, determined in accordance with § 63.495(g)(5).

■ 16. Section 63.499 is amended by:
■ a. Revising paragraph (a)(3);
■ b. Revising paragraph (b) introductory text;
■ c. Revising paragraph (c) introductory text;
■ d. Revising paragraph (d) introductory text; and
■ e. Adding paragraph (f) to read as follows:

§ 63.499 Back-end process provisions—reporting.

(a) * * *

(3) If the back-end process operation is subject to a residual organic HAP limitation in § 63.494(a)(1) through (3), whether compliance will be achieved by stripping technology, or by control or recovery devices.

(b) Each owner or operator of a back-end process operation using stripping to comply with a residual organic HAP limitation in § 63.494(a)(1) through (3), and demonstrating compliance by stripper parameter monitoring, shall submit reports as specified in paragraphs (b)(1) and (2) of this section.

* * * * *

(c) Each owner or operator of an affected source with a back-end process operation control or recovery device that shall comply with a residual organic HAP limitation in § 63.494(a)(1) through (3), shall submit the information specified in paragraphs (c)(1) through (3) of this section as part of the Notification of Compliance Status specified in § 63.506(e)(5).

* * * * *

(d) Whenever a process change, as defined in § 63.496(d), is made that causes the redetermination of the compliance status for the back-end process operations subject to a residual organic HAP limitation in § 63.494(a)(1) through (3), the owner or operator shall submit a report within 180 days after the process change, as specified in § 63.506(e)(7)(iii). The report shall include:

* * * * *

(f) If the back-end process operation is subject to an organic HAP emission limitation in § 63.494(a)(4), the owner and operator must submit the information specified in paragraphs (f)(1) and (2) of this section.

(1) The applicable organic HAP emission limitation determined in accordance with § 63.494(a)(4)(i) through (iv), shall be submitted no later than 180 days from the date of publication of the final rule amendments in the **Federal Register**.

(2) Beginning with the first periodic report required to be submitted by § 63.506(e)(6) that is at least 13 months after the compliance date, the total mass of organic HAP emitted for each of the rolling 12-month periods in the reporting period divided by the total mass of elastomer produced during the corresponding 12-month period, determined in accordance with § 63.495(g)(5).

■ 17. Section 63.501 is amended by revising paragraph (c)(2) to read as follows:

§ 63.501 Wastewater provisions.

* * * * *

(c) * * *

(2) Back-end streams at affected sources that are subject to a residual organic HAP limitation in § 63.494(a)(1) through (3) and that are complying with these limitations through the use of stripping technology.

■ 18. Section 63.502 is amended by revising paragraphs (a) and (b)(4) to read as follows:

§ 63.502 Equipment leak and heat exchange system provisions.

(a) *Equipment leak provisions.* The owner or operator of each affected source, shall comply with the requirements of subpart H of this part, with the exceptions noted in paragraphs (b) through (m) of this section. Surge control vessels required to be controlled by subpart H may, alternatively, comply with the Group 1 storage vessel provisions specified in § 63.484.

(b) * * *

(4) Surge control vessels and bottoms receivers located downstream of the stripping operations at affected sources subject to the back-end residual organic HAP limitation located in § 63.494(a)(1) through (3) that are complying through the use of stripping technology, as specified in § 63.495;

* * * * *

§ 63.503—[Amended]

■ 19. Section 63.503 is amended by removing and reserving paragraph (f)(1).

■ 20. Section 63.504 is amended by revising paragraph (a)(1) introductory text to read as follows:

§ 63.504 Additional requirements for performance testing.

(a) * * *

(1) Performance tests shall be conducted at maximum representative operating conditions achievable during one of the time periods described in paragraph (a)(1)(i) of this section, without causing any of the situations described in paragraph (a)(1)(ii) of this section to occur. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

* * * * *

■ 21. Section 63.505 is amended by:
■ a. Revising paragraph (e)(4);
■ b. Revising paragraph (g)(1) introductory text;
■ c. Revising paragraph (g)(1)(v)(A);
■ d. Revising paragraph (g)(1)(v)(B);
■ e. Removing paragraphs (g)(1)(v)(C) through (g)(1)(v)(E);
■ f. Revising paragraph (g)(2)(ii)(B) introductory text; and
■ g. Adding paragraph (j) to read as follows:

§ 63.505 Parameter monitoring levels and excursions.

* * * * *

(e) * * *

(4) An owner or operator complying with the residual organic HAP limitations in paragraphs (a)(1) through (3) of § 63.494 using stripping, and demonstrating compliance by stripper parameter monitoring, shall redetermine the residual organic HAP content for all affected grades whenever process changes are made. For the purposes of this section, a process change is any action that would reasonably be

expected to impair the performance of the stripping operation. For the purposes of this section, examples of process changes may include changes in production capacity or production rate, or removal or addition of equipment. For purposes of this paragraph, process changes do not include: Process upsets; unintentional, temporary process changes; or changes that reduce the residual organic HAP content of the elastomer.

* * * * *

(g) * * *

(1) With respect to storage vessels (where the applicable monitoring plan specifies continuous monitoring), continuous front-end process vents, aggregate batch vent streams, back-end process operations complying with § 63.494(a)(1) through (3) through the use of control or recovery devices, and process wastewater streams, an excursion means any of the three cases listed in paragraphs (g)(1)(i) through (g)(1)(iii) of this section. * * *

(v) * * *

(A) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments; or

(B) Periods of non-operation of the affected source (or portion thereof), resulting in cessation of the emissions to which the monitoring applies.

(2) * * *

(ii) * * *

(B) Subtract the time during the periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments from the total amount of time determined in paragraph (g)(2)(ii)(A) of this section, to obtain the operating time used to determine if monitoring data are insufficient.

* * * * *

(j) *Excursion definition for back-end operations subject to § 63.494(a)(4).* An excursion means when the total mass of organic HAP emitted for any consecutive 12-month period divided by the total mass of elastomer produced during the 12-month period, determined in accordance with § 63.495(g), is greater than the applicable emission limitation, determined in accordance with § 63.494(a)(4)(i) through (iv) and submitted in accordance with § 63.499(f)(1).

■ 22. Section 63.506 is amended by:

■ a. Revising paragraph (b)(1) introductory text;

■ b. Revising paragraph (d)(7);

■ c. Revising paragraph (e)(3) introductory text;

■ d. Removing and reserving paragraph (e)(3)(viii);

■ e. Revising paragraph (e)(3)(ix)(B);

■ f. Revising paragraph (e)(6)(iii)(E);

■ g. Revising paragraph (h)(1)(i);

■ h. Revising paragraph (h)(1)(ii)(C);

■ i. Revising paragraph (h)(1)(iii);

■ j. Revising paragraph (h)(2)(iii);

■ k. Removing and reserving paragraph (h)(2)(iv)(A); and

■ l. Adding paragraph (i) to read as follows:

§ 63.506 General recordkeeping and reporting provisions.

* * * * *

(b) * * *

(1) *Malfunction records.* Each owner or operator of an affected source subject to this subpart shall maintain records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment), air pollution control equipment, or monitoring equipment. Each owner or operator shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.483(a)(1), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

* * * * *

(d) * * *

(7) Monitoring data recorded during periods identified in paragraphs (d)(7)(i) and (ii) of this section shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device or recovery device operation when monitors are not operating.

(i) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments; or

(ii) Periods of non-operation of the affected source (or portion thereof), resulting in cessation of the emissions to which the monitoring applies.

* * * * *

(e) * * *

(3) *Precompliance Report.* Owners or operators of affected sources requesting an extension for compliance; requesting approval to use alternative monitoring parameters, alternative continuous monitoring and recordkeeping, or alternative controls; requesting approval to use engineering assessment to estimate emissions from a batch emissions episode, as described in § 63.488(b)(6)(i); wishing to establish parameter monitoring levels according to the procedures contained in § 63.505(c) or (d); shall submit a Precompliance Report according to the schedule described in paragraph (e)(3)(i) of this section. The Precompliance Report shall contain the information specified in paragraphs (e)(3)(ii) through (vii) of this section, as appropriate.

* * * * *

(viii) [Reserved]

(ix) * * *

(B) Supplements to the Precompliance Report may be submitted to request approval to use alternative monitoring parameters, as specified in paragraph (e)(3)(iii) of this section; to use alternative continuous monitoring and recordkeeping, as specified in paragraph (e)(3)(iv) of this section; to use alternative controls, as specified in paragraph (e)(3)(v) of this section; to use engineering assessment to estimate emissions from a batch emissions episode, as specified in paragraph (e)(3)(vi) of this section; or to establish parameter monitoring levels according to the procedures contained in § 63.505(c) or (d), as specified in paragraph (e)(3)(vii) of this section.

* * * * *

(6) * * *

(iii) * * *

(E) The number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.483(a)(1), including actions taken to correct a malfunction.

* * * * *

(h) * * *

(1) * * *

(i) The monitoring system is capable of detecting unrealistic or impossible data during periods of normal operation (*e.g.*, a temperature reading of −200 °C on a boiler), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(ii) * * *

(C) The running average reflects a period of normal operation.

(iii) The monitoring system is capable of detecting unchanging data during periods of normal operation, except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (*e.g.*, pH in some scrubbers), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in

an operating day constitute a single occurrence.

* * * * *

(2) * * *

(iii) The owner or operator shall retain the records specified in paragraphs (h)(1)(i) through (iii) of this section, for the duration specified in paragraph (h) of this section. For any calendar week, if compliance with paragraphs (h)(1)(i) through (iii) of this section does not result in retention of a record of at least one occurrence or measured parameter value, the owner or operator shall record and retain at least one parameter value during a period of normal operation.

(iv) * * *

(A) [Reserved]

* * * * *

(i)(1) As of January 1, 2012, and within 60 days after the date of completing each performance test, as defined in § 63.2 and as required in this subpart, you must submit performance test data, except opacity data, electronically to EPA's Central Data Exchange by using the Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(2) All reports required by this subpart not subject to the requirements in paragraphs (i)(1) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (i)(1) of this section in paper format.

■ 23. Table 1 to Subpart U of part 63 is amended by:

■ a. Removing entry 63.6(e);

■ b. Revising entries 63.6(e)(1)(i) and 63.6(e)(1)(ii);

■ c. Revising entry 63.6(e)(2);

■ d. Adding entry 63.6(e)(3);

■ e. Removing entries 63.6(e)(3)(i) through 63.6(e)(3)(ix);

■ f. Revising entry 63.6(f)(1); and

■ g. Revising entries 63.7(e)(1) and 63.10(d)(5)(i) to read as follows:

TABLE 1 TO SUBPART U OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART U AFFECTED SOURCES

Reference	Applies to subpart U	Explanation
* * *	* * *	* * *
§ 63.6(e)(1)(i)	No	See § 63.483(a)(1) for general duty requirement. Any cross reference to § 63.6(e)(1)(i) in any other general provision incorporated by reference shall be treated as a cross reference to § 63.483(a)(1).
§ 63.6(e)(1)(ii)	No.	
* * *	* * *	* * *
§ 63.6(e)(2)	No	[Reserved.].
§ 63.6(e)(3)	No.	
§ 63.6(f)(1)	No.	
* * *	* * *	* * *
§ 63.7(e)(1)	No	See § 63.504(a)(1). Any cross-reference to § 63.7(e)(1) in any other general provision incorporated by reference shall be treated as a cross-reference to § 63.504(a)(1).
* * *	* * *	* * *
63.10(d)(5)(i)	No.	
* * *	* * *	* * *

■ 24. Table 5 to Subpart U of part 63 is revised to read as follows:

TABLE 5 TO SUBPART U OF PART 63—KNOWN ORGANIC HAP EMITTED FROM THE PRODUCTION OF ELASTOMER PRODUCTS

[Known organic HAP emitted from the production of elastomer products]

Organic HAP/Chemical name (CAS No.)	Elastomer product/subcategory										
	BR	EPI	EPR	HYP	NEO	NBL	NBR	PBR/SBRS	PSR	SBL	SBRE
Acrylonitrile (107131)						X	X				
1,3 Butadiene (106990)						X	X	X		X	X
Carbon Disulfide						X	X	X		X	X
Carbon Tetrachloride (56235)				X							
Chlorobenzene (108907)				X							
Chloroform (67663)				X							
Chloroprene (126998)					X						
Epichlorohydrin (106898)		X									
Ethylbenzene (100414)	X									X	
Ethylene Dichloride (107062)									X		
Ethylene Oxide (75218)		X							X		
Formaldehyde (50000)		X							X		

TABLE 5 TO SUBPART U OF PART 63—KNOWN ORGANIC HAP EMITTED FROM THE PRODUCTION OF ELASTOMER PRODUCTS—Continued

[Known organic HAP emitted from the production of elastomer products]

Organic HAP/Chemical name (CAS No.)	Elastomer product/subcategory										
	BR	EPI	EPR	HYP	NEO	NBL	NBR	PBR/SBRS	PSR	SBL	SBRE
Hexane (110543)	X		X					X			
Methanol (67561)	X							X			
Methyl Chloride (74873)	X			X							
Propylene Oxide (75569)		X									
Styrene (100425)								X		X	X
Toluene (108883)		X	X		X			X			
Xylenes (1330207)	X										
Xylene (m-) (108383)	X										
Xylene (o-) (95476)	X										
Xylene (p-) (106423)	X										

CAS No. = Chemical Abstract Service Number.
BR = Butyl Rubber.
EPI = Epichlorohydrin Rubber.
EPR = Ethylene Propylene Rubber.
HYP = Hypalon™.
NEO = Neoprene.
NBL = Nitrile Butadiene Latex.
NBR = Nitrile Butadiene Rubber.
PBR/SBRS = Polybutadiene and Styrene Butadiene Rubber by Solution.
PSR = Polysulfide Rubber.
SBL = Styrene Butadiene Latex.
SBRE = Styrene Butadiene Rubber by Emulsion.

Subpart Y—[Amended]

■ 25–26. Section 63.560 is amended by:
■ a. Adding paragraph (a)(4);
■ b. Revising paragraph (d)(6); and
■ c. Adding paragraph (e)(1)(iv) to read as follows:
■ d. Table 1 to subpart Y of part 63 is amended by:
■ 1. Revising entry 63.6(f)(1);
■ 2. Removing entry 63.7(e);
■ 3. Adding entries 63.7(e)(1) and 63.7(e)(2)–(4);
■ 4. Removing entries 63.8(c)(1)(i), 63.8(c)(1)(ii), and 63.(c)(1)(iii);
■ 5. Adding entry 63.8(c)(1);
■ 6. Removing entry 63.10(b)(2)(i);
■ 7. Adding entry 63.10(b)(2)(i)–(ii);
■ 8. Removing entry 63.10(b)(2)(ii)–(iii);
■ 9. Adding entry 63.10(b)(2)(iii);
■ 10. Removing entry 63.10(c)(10)–(13); and
■ 11. Adding entries 63.10(c)(10)–(11) and 63.10(c)(12)–(13).

The additions and revisions read as follows:

§ 63.560 Applicability and designation of affected source.

(a) * * *

(4) Existing sources with emissions less than 10 and 25 tons must meet the submerged fill standards of 46 CFR 153.282. This submerged fill requirement does not apply to petroleum refineries.

* * * * *

(d) * * *

(6) The provisions of this subpart do not apply to marine tank vessel loading operations at existing offshore loading terminals, as that term is defined in § 63.561, however existing offshore loading terminals must meet the submerged fill standards of 46 CFR 153.282.

* * * * *

(e) * * *

(1) * * *

(iv) Existing sources with emissions less than 10 and 25 tons, and existing offshore loading terminals, shall comply with the submerged fill requirements in paragraph (a)(4) and (d)(6) of this section by April 23, 2012.

* * * * *

TABLE 1 OF § 63.560—GENERAL PROVISIONS APPLICABILITY TO SUBPART Y

Reference	Applies to affected sources in subpart Y	Comment
* * * * * * *		
63.6(f)(1)	No.	
* * * * * * *		
63.7(e)(1)	No	See 63.563(b)(1). Any cross reference to 63.7(e)(1) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.563(b)(1).
63.7(e)(2)–(4)	Yes.	
63.8(c)(1)	No.	
* * * * * * *		
* * * * * * *		
63.10(b)(2)(i)–(ii)	No	See 63.567(m).

TABLE 1 OF § 63.560—GENERAL PROVISIONS APPLICABILITY TO SUBPART Y—Continued

Reference	Applies to affected sources in subpart Y	Comment
* * * * * * *		
63.10(b)(2)(iii)	Yes.	
* * * * * * *		
63.10(c)(10)–(11)	No	See 63.567(m) for reporting malfunctions. Any cross-reference to 63.10(c)(10) or 63.10(c)(11) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.567(m).
63.10(c)(12)–(13)	Yes.	
* * * * * * *		

■ 27. Section 63.561 is amended by adding in alphabetical order a definition for "affirmative defense" to read as follows:

§ 63.561 Definitions.

* * * * *

Affirmative defense means, in the context of an enforcement proceeding, a response or a defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

* * * * *

■ 28. Section 63.562 is amended by:
■ a. Revising paragraph (e) introductory text; and
■ b. Adding paragraph (e)(7) to read as follows:

§ 63.562 Standards.

* * * * *

(e) Operation and maintenance requirements for air pollution control equipment and monitoring equipment for affected sources. At all times, owners or operators of affected sources shall operate and maintain a source, including associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

* * * * *

(7) In response to an action to enforce the standards set forth in this subpart, you may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by a malfunction, as defined in § 63.2. Appropriate penalties may be assessed, however, if the respondent fails to meet its burden of proving all the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(i) To establish the affirmative defense in any action to enforce such a limit, the owners or operators of a facility must timely meet the notification requirements of paragraph (e)(7)(ii) of this section, and must prove by a preponderance of evidence that:

(A) The excess emissions were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, or a process to operate in a normal and usual manner; and could not have been prevented through careful planning, proper design or better operation and maintenance practices; and did not stem from any activity or event that could have been foreseen and avoided, or planned for; and were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(B) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs;

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

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

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

(F) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices;

(G) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs;

(H) At all times, the affected facility was operated in a manner consistent with good practices for minimizing emissions; and

(I) The owner or operator has prepared a written root cause analysis, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using the best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(ii) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in this subpart to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (e)(7)(i) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the

expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

■ 29. Section 63.563 is amended by revising paragraph (b)(1) to read as follows:

§ 63.563 Compliance and performance testing.

* * * * *

(b) * * *

(1) *Initial performance test.* An initial performance test shall be conducted using the procedures listed in § 63.7 of subpart A of this part according to the applicability in Table 1 of § 63.560, the procedures listed in this section, and the test methods listed in § 63.565. The initial performance test shall be conducted within 180 days after the compliance date for the specific affected source. During this performance test, sources subject to MACT standards under § 63.562(b)(2), (3), (4), and (5), and (d)(2) shall determine the reduction of HAP emissions, as VOC, for all combustion or recovery devices other than flares. Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. Sources subject to RACT standards under § 63.562(c)(3), (4), and (5), and (d)(2) shall determine the reduction of VOC emissions for all combustion or recovery devices other than flares.

* * * * *

■ 30. Section 63.567 is amended by adding paragraphs (m) and (n) to read as follows:

§ 63.567 Recordkeeping and reporting requirements.

* * * * *

(m) The number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded shall be stated in a semiannual report. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.562(e), including actions taken to correct a malfunction. The report, to be certified by the owner or operator or other responsible official, shall be submitted semiannually and delivered or postmarked by the 30th day following the end of each calendar half.

(n)(1) As of January 1, 2012 and within 60 days after the date of completing each performance test, as defined in § 63.2, and as required in this subpart, you must submit performance test data, except opacity data, electronically to EPA's Central Data Exchange by using the ERT (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(2) All reports required by this subpart not subject to the requirements in paragraph (n)(1) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (n)(1) of this section in paper format.

Subpart KK—[Amended]

■ 31. Section 63.820 is amended by adding paragraph (c) to read as follows:

§ 63.820 Applicability.

* * * * *

(c) In response to an action to enforce the standards set forth in this subpart, an owner or operator may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by a malfunction, as defined in § 63.2. Appropriate penalties may be assessed, however, if the owner or operator fails to meet the burden of proving all the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(1) To establish the affirmative defense in any action to enforce such a limit, the owners or operators of a facility must timely meet the notification requirements of paragraph (c)(2) of this section, and must prove by a preponderance of evidence that:

(i) The excess emissions were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, or a process to operate in a normal or usual manner; and could not have been prevented through careful planning, proper design or better operation and maintenance practices; and did not stem from any activity or event that could have been foreseen and avoided, or planned for; and were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(ii) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs;

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

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

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

(vi) All emissions monitoring and control systems were kept in operation, if at all possible, consistent with safety and good air pollution control practices;

(vii) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs;

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

(ix) The owner or operator has prepared a written root cause analysis, the purpose of which is to determine, correct and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using the best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(2) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in this subpart to demonstrate, with all necessary supporting documentation,

that it has met the requirements set forth in paragraph (c)(1) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

■ 32. Section 63.822 is amended by adding in alphabetical order a definition for "affirmative defense" to paragraph (a) to read as follows:

§ 63.822 Definitions.

(a) * * *

Affirmative defense means, in the context of an enforcement proceeding, a response or a defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

* * * * *

■ 33. Section 63.823 is revised to read as follows:

§ 63.823 Standards: General.

(a) Table 1 to this subpart provides cross references to the 40 CFR part 63, subpart A, general provisions, indicating the applicability of the general provisions requirements to this subpart KK.

(b) Each owner or operator of an affected source subject to this subpart must at all times operate and maintain that affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

■ 34. Section 63.827 is amended by adding introductory text to read as follows:

§ 63.827 Performance test methods.

Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

* * * * *

■ 35. Section 63.829 is amended by adding paragraphs (g) and (h) to read as follows:

§ 63.829 Recordkeeping requirements.

* * * * *

(g) Each owner or operator of an affected source subject to this subpart shall maintain records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment), air pollution control equipment, or monitoring equipment.

(h) Each owner or operator of an affected source subject to this subpart shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.823(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

■ 36. Section 63.830 is amended by:
■ a. Removing and reserving paragraph (b)(5);
■ b. Adding paragraph (b)(6)(v); and
■ c. Adding paragraph (c) to read as follows:

§ 63.830 Reporting requirements.

* * * * *

(b) * * *

(6) * * *

(v) The number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.823(b), including actions taken to correct a malfunction.

(c)(1) As of January 1, 2012, and within 60 days after the date of completing each performance test, as defined in § 63.2 and as required in this subpart, you must submit performance test data, except opacity data, electronically to EPA's Central Data Exchange by using the ERT (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(2) All reports required by this subpart not subject to the requirements in paragraph (c)(1) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (c)(1) of this section in paper format.

■ 37. Table 1 to Subpart KK of part 63 is amended by:
■ a. Removing entry 63.6(e);
■ b. Adding entries 63.6(e)(1)(i), 63.6(e)(1)(ii); 63.6(e)(1)(iii), 63.6(e)(2), and 63.6(e)(3);
■ c. Removing entry 63.6(f);
■ d. Adding entries 63.6(f)(1) and 63.6(f)(2)–(f)(3);
■ e. Removing entry 63.7;
■ f. Adding entries 63.7(a)–(d), 63.7(e)(1), and 63.7(e)(2)–(e)(4);
■ g. Removing entry 63.8(d)–(f);
■ h. Adding entries 63.8(d)(1)–(2), 63.8(d)(3), and 63.8(e)–(f);
■ i. Removing entries 63.10(b)(1)–(b)(3), 63.10(c)(10)–(c)(15), and 63.10(d)(4)–(d)(5);
■ j. Adding entries 63.10(b)(1), 63.10(b)(2)(i), 63.10(b)(2)(ii), 63.10(b)(2)(iii), 63.10(b)(2)(iv)–(b)(2)(v), 63.10(b)(2)(vi)–(b)(2)(xiv), 63.10(b)(3), 63.10(c)(10), 63.10(c)(11), 63.10(c)(12)–(c)(14), 63.10(c)(15), 63.10(d)(4), and 63.10(d)(5) to read as follows:

TABLE 1 TO SUBPART KK OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART KK

General provisons reference	Applicable to subpart KK	Comment
*	*	*
§ 63.6(e)(1)(i)	No	See 63.823(b) for general duty requirement. Any cross-reference to 63.6(e)(1)(i) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.823(b).

TABLE 1 TO SUBPART KK OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART KK—Continued

General provisons reference	Applicable to subpart KK	Comment
§ 63.6(e)(1)(ii)	No.	
§ 63.6(e)(1)(iii)	Yes.	
§ 63.6(e)(2)	No	Section reserved.
§ 63.6(e)(3)	No.	
§ 63.6(f)(1)	No.	
§ 63.6(f)(2)–(f)(3)	Yes.	
* * * * * * *		
§ 63.7(a)–(d)	Yes.	
§ 63.7(e)(1)	No	See 63.827 introductory text. Any cross-reference to 63.7(e)(1) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.827 introductory text.
§ 63.7(e)(2)–(e)(4)	Yes.	
* * * * * * *		
§ 63.8(d)(1)–(2)	Yes.	
§ 63.8(d)(3)	Yes, except for last sentence.	
§ 63.8(e)–(f)	Yes.	
* * * * * * *		
§ 63.10(b)(1)	Yes.	
§ 63.10(b)(2)(i)	No.	
§ 63.10(b)(2)(ii)	No	See 63.829(g) for recordkeeping of occurrence and duration of malfunctions. See 63.829(h) for recordkeeping of actions taken during malfunction. Any cross-reference to 63.10(b)(2)(ii) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.829(g).
§ 63.10(b)(2)(iii)	Yes.	
§ 63.10(b)(2)(iv)–(b)(2)(v)	No.	
§ 63.10(b)(2)(vi)–(b)(2)(xiv)	Yes.	
§ 63.10(b)(3)	Yes.	
* * * * * * *		
§ 63.10(c)(10)	No	See 63.830(b)(6)(v) for reporting malfunctions. Any cross-reference to 63.10(c)(10) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.830(b)(6)(v).
§ 63.10(c)(11)	No	See 63.830(b)(6)(v) for reporting malfunctions. Any cross-reference to 63.10(c)(11) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.830(b)(6)(v).
§ 63.10(c)(12)–(c)(14)	Yes.	
§ 63.10(c)(15)	No.	
* * * * * * *		
§ 63.10(d)(4)	Yes.	
§ 63.10(d)(5)	No.	
* * * * * * *		

Subpart GGG—[Amended]

■ 38. Section 63.1250 is amended by revising paragraph (g) to read as follows:

§ 63.1250 Applicability.

* * * * *

(g) *Applicability of this subpart.* (1) Each provision set forth in this subpart shall apply at all times, except that the provisions set forth in § 63.1255 of this subpart shall not apply during periods of nonoperation of the PMPU (or specific portion thereof) in which the lines are drained and depressurized resulting in the cessation of the emissions to which § 63.1255 of this subpart applies.

(2) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the emissions limitations of this subpart during times when emissions (or, where applicable, wastewater streams or residuals) are being routed to such items of equipment, if the shutdown would contravene emissions limitations of this subpart applicable to such items of equipment. This paragraph does not apply if the owner or operator must shut down the equipment to avoid damage to a PMPU or portion thereof.

(3) At all times, each owner or operator must operate and maintain any affected source subject to the requirements of this subpart, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(4) In response to an action to enforce the standards set forth in this subpart, an owner or operator may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by a malfunction, as defined in § 63.2. Appropriate penalties may be assessed, however, if owner or operator fails to meet the burden of proving all the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(i) To establish the affirmative defense in any action to enforce such a limit, the owners or operators of a facility must timely meet the notification requirements of paragraph (g)(4)(ii) of this section, and must prove by a preponderance of evidence that:

(A) The excess emissions were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, or a process to operate in a normal and usual manner; and could not have been prevented through careful planning, proper design, or better operation and maintenance practices; and did not stem from any activity or event that could have been foreseen and avoided, or planned for; and were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(B) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs;

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

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

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

(F) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices;

(G) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs;

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

(I) The owner or operator has prepared a written root cause analysis, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using the best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(ii) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in this subpart to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (g)(4)(i) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

* * * * *

■ 39. Section 63.1251 is amended by adding in alphabetical order a definition for "affirmative defense" to read as follows:

§ 63.1251 Definitions.

* * * * *

Affirmative defense means, in the context of an enforcement proceeding, a response or a defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

* * * * *

■ 40. Section 63.1255 is amended by revising paragraph (g)(4)(v)(A) to read as follows:

§ 63.1255 Standards: Equipment leaks.

* * * * *

(g) * * *

(4) * * *

(v) * * *

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures shall be included in a document that is maintained at the plant site. Reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

* * * * *

■ 41. Section 63.1256 is amended by revising paragraph (a)(4)(i) introductory text, and removing paragraphs (a)(4)(iii) and (iv) to read as follows:

§ 63.1256 Standards: Wastewater.

(a) * * *

(4) * * *

(i) The owner or operator shall prepare a description of maintenance procedures for management of wastewater generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (*i.e.*, a maintenance turnaround) and during periods which are not shutdowns (*i.e.*, routine maintenance). The descriptions shall be included in a document that is maintained at the plant site and shall:

* * * * *

■ 42. Section 63.1257 is amended by revising paragraph (a) introductory text and the first sentence of paragraph (e)(2)(iii)(A)(*6*)(*ii*) to read as follows:

§ 63.1257 Test methods and compliance procedures.

(a) *General.* Except as specified in paragraph (a)(5) of this section, the procedures specified in paragraphs (c), (d), (e), and (f) of this section are required to demonstrate initial compliance with §§ 63.1253, 63.1254, 63.1256, and 63.1252(e), respectively. The provisions in paragraphs (a)(2) and (3) apply to performance tests that are specified in paragraphs (c), (d), and (e) of this section. The provisions in paragraph (a)(5) of this section are used to demonstrate initial compliance with the alternative standards specified in §§ 63.1253(d) and 63.1254(c). The provisions in paragraph (a)(6) of this section are used to comply with the outlet concentration requirements specified in §§ 63.1253(c), 63.1254(a)(2)(i), and (a)(3)(ii)(B), 63.1254(b)(i), and 63.1256(h)(2). Performance tests shall be conducted under such conditions representative of performance of the affected source for the period being tested. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to

determine the conditions of performance tests.

* * * * *

(e) * * *

(2) * * *

(iii) * * *

(A) * * *

(*6*) * * *

(*ii*) The owner or operator may consider the inlet to the equalization tank as the inlet to the biological treatment process if the wastewater is conveyed by hard-piping from either the last previous treatment process or the point of determination to the equalization tank; and the wastewater is conveyed from the equalization tank exclusively by hard-piping to the biological treatment process and no treatment processes or other waste management units are used to store, handle, or convey the wastewater between the equalization tank and the biological treatment process; and the equalization tank is equipped with a fixed roof and a closed-vent system that routes emissions to a control device that meets the requirements of § 63.1256(b)(1)(i) through (iv) and § 63.1256(b)(2)(i). * * *

* * * * *

§ 63.1258 [Amended]

■ 43. Section 63.1258 is amended by removing paragraph (b)(8)(iv).

■ 44. Section 63.1259 is amended by revising paragraph (a)(3) to read as follows:

§ 63.1259 Recordkeeping requirements.

* * * * *

(a) * * *

(3) *Malfunction records.* Each owner or operator of an affected source subject to this subpart shall maintain records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment), air pollution control equipment, or monitoring equipment. Each owner or operator shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.1250(g)(3), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

* * * * *

■ 45. Section 63.1260 is amended by:

■ a. Revising paragraph (a);

■ b. Revising paragraph (i); and

■ c. Adding paragraph (n) to read as follows:

§ 63.1260 Reporting requirements.

* * * * *

(a) The owner or operator of an affected source shall comply with the reporting requirements of paragraphs (b) through (n) of this section. Applicable reporting requirements of §§ 63.9 and 63.10 are also summarized in Table 1 of this subpart.

* * * * *

(i) The owner or operator shall submit a report of the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.1250(g)(3), including actions taken to correct a malfunction. The report shall be submitted on the same schedule as the periodic reports required under paragraph (g) of this section.

* * * * *

(n)(1) As of January 1, 2012, and within 60 days after the date of completing each performance test, as defined in § 63.2 and as required in this subpart, you must submit performance test data, except opacity data, electronically to EPA's Central Data Exchange by using the ERT (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(2) All reports required by this subpart not subject to the requirements in paragraphs (n)(1) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (n)(1) of this section in paper format.

■ 46. Table 1 to Subpart GGG is amended by:

■ a. Removing entry 63.6(e);

■ b. Adding entries 63.6(e)(1)(i), 63.6(e)(1)(ii), 63.6(e)(1)(iii), 63.6(e)(2), and 63.6(e)(3);

■ c. Removing entry 63.6(f)–(g);

■ d. Adding entries 63.6(f)(1), 63.6(f)(2)–(3), 63.6(g);

■ e. Removing entry 63.7(e);

■ f. Adding entries 63.7(e)(1) and 63.7(e)(2)–(4);

■ g. Removing entry 63.8(d);

■ h. Adding entries 63.8(d)(1)–(2) and 63.8(d)(3).

■ i. Removing entry 63.10(c)–(d)(2);

■ j. Adding entries 63.10(c)(1)–(9), 63.10(c)(10), 63.10(c)(11), 63.10(c)(12)–(14), 63.10(c)(15), and 63.10(d)(1)–(2);

■ k. Removing entry 63.10(d)(4–5); and

■ l. Adding entries 63.10(d)(4) and 63.10(d)(5) to read as follows:

TABLE 1 TO SUBPART GGG OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART GGG

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
*	*	*	*
§ 63.6(e)(1)(i)	Requirements during periods of startup, shutdown, and malfunction.	No	See 63.1250(g)(3) for general duty requirement. Any cross-reference to 63.6(e)(1)(i) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.1250(g)(3).
§ 63.6(e)(1)(ii)	Malfunction correction requirements.	No.	
§ 63.6(e)(1)(iii)	Enforceability of operation and maintenance requirements.	Yes.	
§ 63.6(e)(2)	Reserved	No	Section reserved.
§ 63.6(e)(3)	Startup, shutdown, and malfunction plan requirements.	No.	

TABLE 1 TO SUBPART GGG OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART GGG—Continued

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
* * *	*	* * * *	
63.6(f)(1)	Applicability of nonopacity emission standards.	No.	
63.6(f)(2)–(3)	Methods of determining compliance and findings compliance.	Yes.	
63.6(g)	Use of an alternative nonopacity emission standard.	Yes.	
* * *	*	* * * *	
63.7(e)(1)	Conduct of performance tests.	No	See 63.1257(a) text. Any cross-reference to 63.7(e)(1) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.1257(a).
63.7(e)(2)–(4)	Performance tests requirements.	Yes.	
* * *	*	* * * *	
63.8(d)(1)–(2)	CMS quality control program requirements.	Yes.	
63.8(d)(3)	CMS quality control program recordkeeping requirements.	Yes, except for last sentence.	
* * *	*	* * * *	
63.10(c)(1)–(9)	Additional recordkeeping requirements for sources with continuous monitoring systems.	Yes.	
63.10(c)(10)	Malfunction recordkeeping requirement.	No	Subpart GGG specifies recordkeeping requirements.
63.10(c)(11)	Malfunction corrective action recordkeeping requirement.	No	Subpart GGG specifies recordkeeping requirements.
63.10(c)(12)–(14)	Additional recordkeeping requirements for sources with continuous monitoring systems.	Yes.	
63.10(c)(15)	Additional SSM recordkeeping requirements.	No.	
* * *	*	* * * *	
63.10(d)(1)–(2)	General reporting requirements.	Yes.	
* * *	*	* * * *	
63.10(d)(4)	Progress report requirements.	Yes.	
63.10(d)(5)	Startup, shutdown, and malfunction report requirements.	No	Subpart GGG specifies reporting requirements.
* * *	*	* * * *	

[FR Doc. 2011–8168 Filed 4–20–11; 8:45 am]
BILLING CODE 6560–50–P

Dated: June 14, 2010.

Jared Blumenfeld,

Regional Administrator, Region IX.

■ Part 52, Chapter I, Title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for Part 52 continues to read as follows:

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

Subpart F—California

■ 2. Section 52.242 is amended by adding paragraph (a)(6) to read as follows:

§ 52.242 Disapproved rules and regulations.

(a) * * *

(6) Monterey Bay Unified Air Pollution Control District

(i) Rule 400, Visible Emissions, submitted on March 7, 2008. Rule 400 submitted on January 15, 2004, is retained.

[FR Doc. 2010–15759 Filed 6–29–10; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2003–0146; FRL–9169–7]

RIN 2060–AO55

National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; correction.

SUMMARY: On October 28, 2009, we promulgated general control requirements to control emissions of hazardous air pollutants from heat exchange systems at petroleum refineries. These requirements were published as amendments to the national emission standards for petroleum refineries. In this notice, we are correcting typographical errors and inadvertent errors in section references.

DATES: This correction is effective on July 30, 2010.

SUPPLEMENTARY INFORMATION:

I. Summary of Amendments

On October 28, 2009, we promulgated general control requirements to control emissions of hazardous air pollutants from heat exchange systems at petroleum refineries. 74 FR 55670 (40 CFR part 63, subpart CC). In this action, we are correcting technical errors in the promulgated rule.

Table 1 below describes the miscellaneous technical corrections we are making to 40 CFR part 63, subpart CC.

TABLE 1—TECHNICAL CORRECTIONS TO 40 CFR PART 63, SUBPART CC

Section	Technical correction and reason
63.646(j)	Replace "§ 63.654(f)" with "§ 63.655(f)" to correct a section reference.
63.646(k)	Replace "§ 63.654(g)" with "§ 63.655(g)" to correct a section reference.
63.654(f)	Replace "paragraphs (f)(1) through (3) of this section" with "paragraphs (f)(1) and (2) of this section" to remove the reference to a nonexistent paragraph.
63.655(i)(1)(ii)	Replace "§ 63.654(e)" with "§ 63.655(e)" to correct a section reference.
Table 4, first column heading	Replace "subpart Y" with "subpart R" to correct a section reference.
Table 6, entry for 63.8(c)(4)	Replace "is "once every hour rather" than" with "is "once every hour" rather than" to correct a typographical error.
Table 6, entry for 63.10(b)(1)	Replace "§ 63.644(d)" with "§ 63.655(i)" to correct a section reference.

Section 553 of the Administrative Procedure Act (APA), 5 U.S.C. 553(b)(B), provides that, when an agency, for good cause, finds that notice and public procedure are impracticable, unnecessary, or contrary to the public interest, the agency may issue a rule without providing notice and an opportunity for public comment. We have determined that there is good cause for making this technical correction final without prior proposal and opportunity for comment because only simple typographical errors are being corrected and these corrections do not substantially change the Agency actions taken in the final rule. Thus, notice and public procedure are unnecessary and we find that this constitutes good cause under 5 U.S.C. 553(b)(B). (*See* also the final sentence of section 307(d)(1) of the Clean Air Act (CAA), 42 U.S.C. 307(d)(1), indicating that where the good cause exception is invoked pursuant to section 553(b)(B) of the APA, the procedures in section 307(d) in subsection 553(b) of the APA, the procedures in section 307(d) of the CAA do not apply.)

II. Statutory and Executive Order Reviews

Under Executive Order 12866, Regulatory Planning and Review (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and is, therefore, not subject to review by the Office of Management and Budget. This action is not a "major rule" as defined by 5 U.S.C. 804(2). The technical corrections do not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, *et seq.*).

Because EPA has made a "good cause" finding that this action is not subject to notice and comment requirements under the APA or any other statute (*see* Section I of this preamble), it is not subject to the regulatory flexibility provisions of the Regulatory Flexibility Act (5 U.S.C. 601, *et seq.*), or to sections 202 and 205 of the Unfunded Mandates Reform Act of 1995 (UMRA) (Pub. L. 104–4). In addition, this action does not significantly or uniquely affect small governments or impose a significant intergovernmental mandate, as described in sections 203 and 204 of the UMRA.

This technical correction does not have substantial direct effects on the States, or 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, Federalism (64 FR 43255, August 10, 1999).

This action does not significantly or uniquely affect the communities of tribal governments, as specified by Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249, November 9, 2000). This correction also is not subject to Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997) because it is not economically significant.

This technical correction 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 this action is not a significant regulatory action under Executive Order 12866.

This technical correction does not involve changes to the technical standards related to test methods or monitoring requirements; thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272) do not apply.

This technical correction also does not involve special consideration of environmental justice-related issues as required by Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629, February 16, 1994).

The Congressional Review Act (CRA), 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 CRA does, however, exclude any rule that does not substantially affect the rights and obligations of outside parties. Therefore, the scope of the CRA does not include technical corrections. This action is not a "major rule" as defined by 5 U.S.C. 804(2). The final rule will be effective July 30, 2010.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements.

Dated: June 24, 2010.

Lisa P. Jackson,

Administrator.

■ For the 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.*

Subpart CC—[Amended]

■ 2. Section 63.646 is amended by:
■ a. Revising paragraph (j) and
■ b. Revising paragraph (k) to read as follows:

§ 63.646 Storage vessel provisions.

* * * * *

(j) References to the Notification of Compliance Status report in § 63.152(b) mean the Notification of Compliance Status required by § 63.655(f).

(k) References to the Periodic Reports in § 63.152(c) mean the Periodic Report required by § 63.655(g).

* * * * *

■ 3. Section 63.654 is amended by revising the first sentence of paragraph (f) introductory text to read as follows:

§ 63.654 Heat exchange systems.

* * * * *

(f) The owner or operator may delay the repair of a leaking heat exchanger when one of the conditions in paragraphs (f)(1) and (2) of this section is met. * * *

* * * * *

■ 4. Section 63.655 is amended by revising paragraph (i)(1)(ii) to read as follows:

§ 63.655 Reporting and recordkeeping requirements.

* * * * *

(i) * * *

(1) * * *

(ii) All references to § 63.122 in § 63.123 of subpart G of this part shall be replaced with § 63.655(e),

* * * * *

Appendix to Subpart CC of Part 63—Tables—[Amended]

■ 5. Table 4 of the appendix to subpart CC of part 63 is amended by revising the column headings to read as follows:

TABLE 4—GASOLINE DISTRIBUTION EMISSION POINT RECORDKEEPING AND REPORTING REQUIREMENTS [a]

Reference (section of subpart R)	Description	Comment
*	*	*

* * * * *

■ 6. Table 6 of the appendix to subpart CC of part 63 is amended by revising the entries for §§ 63.8(c)(4) and 63.10(b)(1) to read as follows:

TABLE 6—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC [a]

Reference	Applies to subpart CC	Comment
*	*	*
63.8(c)(4)	Yes	Except subpart CC specifies the monitoring cycle frequency specified in § 63.8(c)(4)(ii) is "once every hour" rather than "for each successive 15-minute period."
*	*	*
63.10(b)(1)	No	§ 63.655(i) of subpart CC specifies record retention requirements.
*	*	*

* * * * *

[FR Doc. 2010–15889 Filed 6–29–10; 8:45 am]
BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2008–0708, FRL–9169–6]

RIN 2060–AP36

National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; correction.

SUMMARY: EPA published in the **Federal Register** on March 3, 2010, a document amending the national emission standards for hazardous air pollutants for existing stationary compression ignition reciprocating internal combustion engines. The amendments inadvertently removed paragraphs from the regulation. EPA is correcting this error.

DATES: Effective on June 30, 2010.

FOR FURTHER INFORMATION CONTACT: Ms. Melanie King, Energy Strategies Group, Sector Policies and Programs Division (D243–01), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number (919) 541–2469; facsimile number (919) 541–5450; e-mail address *king.melanie@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. Summary of Amendments

EPA published in the **Federal Register** on March 3, 2010 (75 FR 9674) a document amending the national emission standards for hazardous air pollutants for existing stationary compression ignition reciprocating internal combustion engines. 40 CFR 63.6590 was amended by revising paragraphs (b)(1) and (3). Inadvertently, paragraphs (b)(1)(i) and (ii) of section 63.6590(b)(1) were removed. This correction amends section 63.6590 by reinstating paragraphs 63.6590(b)(1)(i) and (ii).

Section 553 of the Administrative Procedure Act (APA), 5 U.S.C. 553(b)(3)(B), provides that, when an Agency for good cause finds that notice and public procedure are impracticable, unnecessary, or contrary to the public interest, the Agency may issue a rule without providing notice and an opportunity for public comment. We have determined that there is good cause for making this technical correction final without prior proposal and opportunity for comment because this action only corrects a simple and obvious instructional error that would cause a change that was clearly not intended by the Agency in the final rule, as indicated by the preamble to the final rule. Thus, notice and public procedure is unnecessary. We find that this constitutes good cause under 5 U.S.C. 553(b)(3)(B). (*See also* the final sentence of section 307(d)(1) of the Clean Air Act (CAA), 42 U.S.C. 307(d)(1), indicating that the good cause provisions in subsection 553(b) of the APA continue to apply to this type of rulemaking under section 307(d) of the CAA.)

II. Statutory and Executive Order Reviews

Under Executive Order 12866, Regulatory Planning and Review (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and is therefore not subject to review by the Office of Management and Budget. This action is not a "major rule" as defined by 5 U.S.C. 804(2). The correction does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

Because EPA has made a "good cause" finding that this action is not subject to notice and comment requirements under the APA or any other statute (*see* Section I of this preamble), it is not subject to the regulatory flexibility provisions of the Regulatory Flexibility Act [5 U.S.C. 601 *et seq.*], or to sections 202 and 205 of the Unfunded Mandates Reform Act of 1995 (UMRA) [Pub. L. 104–4]. In addition, this action does not significantly or uniquely affect small governments or impose a significant intergovernmental mandate, as described in sections 203 and 204 of the UMRA.

This action does not have substantial direct effects on the States, or 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, Federalism (64 FR 43255, August 10, 1999).

This action does not significantly or uniquely affect the communities of Tribal governments, as specified by Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249, November 9, 2000). This action also is not subject to Executive Order 13045, Protection of Children from Environmental Health and Safety Risks (62 FR 19885, April 23, 1997) because it is not economically significant.

This action 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 this action is not a significant regulatory action under Executive Order 12866.

This action does not involve changes to the technical standards related to test methods or monitoring requirements; thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272) do not apply.

This action also does not involve special consideration of environmental justice-related issues as required by Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629, February 16, 1994).

The Congressional Review Act (CRA), 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 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 U.S. Section 808 allows the issuing Agency to make a rule effective sooner than otherwise provided by the CRA if the Agency makes a good cause finding that notice and public procedure is impracticable, unnecessary, or contrary to the public interest. This determination must be supported by a brief statement. 5 U.S.C. 808(2). As stated previously, we have determined that there is good cause for making this correction final without prior proposal and opportunity for comment because this action only corrects a simple and obvious instructional error that would cause a change that was clearly not intended by the Agency in the final rule, as indicated by the preamble to the final rule. Thus, notice and public procedure is unnecessary. EPA has therefore established an effective date of June 30, 2010. The EPA will submit a report containing this final action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the U.S. prior to publication of this action in the **Federal Register.** This action is not a "major rule" as defined by 5 U.S.C. 804(2). The final rule is effective June 30, 2010.

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: June 24, 2010.

Lisa P. Jackson,

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 63.6590 is amended by revising paragraph (b)(1) to read as follows:

§ 63.6590 What parts of my plant does this subpart cover?

* * * * *

(b) * * *

(1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of § 63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

* * * * *

[FR Doc. 2010–15886 Filed 6–29–10; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 80

[EPA–HQ–OAR–2005–0161; FRL–9169–9]

RIN 2060–AQ31

Regulation of Fuels and Fuel Additives: Modifications to Renewable Fuel Standard Program

AGENCY: Environmental Protection Agency (EPA).

ACTION: Partial withdrawal of direct final rule.

SUMMARY: EPA published a direct final rule to amend the Renewable Fuel Standard program requirements on May 10, 2010. Because EPA received adverse comment, we are withdrawing several provisions of the direct final rule.

DATES: Effective June 30, 2010, EPA withdraws the definitions of "actual peak capacity," "baseline volume," and "permitted capacity" from 40 CFR 80.1401, and the amendments to 40 CFR 80.1403(a), 80.1425 introductory text and paragraph (i), 80.1426(d)(1) introductory text, 80.1426 Table 2, 80.1426(f)(3)(iv), 80.1426(f)(3)(v), 80.1426(f)(12), 80.1452(b) introductory text, (b)(2), (b)(4), (b)(6), (b)(9), (b)(13), and (b)(15), and 80.1452(c) introductory text, (c)(4), (c)(5), and (c)(7), that were published at 75 FR 26026 on May 10, 2010.

FOR FURTHER INFORMATION CONTACT: Megan Brachtl, Compliance and Innovative Strategies Division, Office of Transportation and Air Quality (Mail Code: 6405J), Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460; telephone number: (202) 343–9473; fax number: (202) 343–2802; e-mail address: *brachtl.megan@epa.gov.*

SUPPLEMENTARY INFORMATION: Because EPA received adverse comment, we are withdrawing several provisions of the direct final rule to amend the Renewable Fuel Standard program requirements, published on May 10, 2010. We stated in that direct final rule that if we received adverse comment by June 9, 2010, the portion of the direct final rule on which adverse comment was received would not take effect, and we would publish a timely withdrawal of such portions of the direct final rule in the **Federal Register.**

We subsequently received adverse comment on the following provisions: Certain of the amendments to 40 CFR 80.1401 (moved the definitions of "actual peak capacity," "baseline volume," and "permitted capacity" from 40 CFR 80.1403(a), revised the definition of "actual peak capacity" to clarify how it is calculated and revised the definition of "permitted capacity" to clarify the dates before which permits used to establish a facility's permitted capacity must have been issued or revised); 40 CFR 80.1425 (clarified that RINs generated after July 1, 2010, may only be generated and transferred using the EPA-Moderated Transaction System (EMTS) and will not be identified by a 38-digit code and that the value of EEEEEEEE in a batch-RIN will be determined by the number of gallon-RINs generated for the batch); 40 CFR 80.1426(d)(1), 80.1426(f)(3)(iv), and 80.1426(f)(3)(v) (clarified that a unique BBBBB code in the RIN, or its equivalent in EMTS, is used to identify a batch of renewable fuel from a given renewable fuel producer or importer); 40 CFR 80.1426 Table 2 (clarified the extent to which renewable fuel producers must use certain advanced technologies in order for them to be considered when determining the proper D code for their fuel); 40 CFR 80.1426(f)(12) (clarified the requirements for gas to be considered biogas for purposes of determining a renewable fuel's D code); 40 CFR 80.1452(b) (clarified that RINs must be generated in EMTS within five (5) business days of being assigned to a batch of renewable fuel and clarified the information required to be submitted via EMTS for each batch of renewable fuel produced or imported); and, 40 CFR 80.1452(c) (clarified that transactions involving RINs generated on or after July 1, 2010 must be conducted via EMTS within five (5) business days of a reportable event, and clarified the meaning of the term "reportable event" and the information required to be submitted via EMTS for each transaction involving RINs generated on or after July 1, 2010).

EPA published a parallel proposed rule on the same day as the direct final rule. The proposed rule invited comment on the substance of the direct final rule. We will address the comments received on the portions of the direct final rule listed above in a subsequent final action based on the parallel proposed rule also published on May 10, 2010 (75 FR 26049). The provisions for which we did not receive adverse comment will become effective on July 1, 2010, as provided in the May 10, 2010, direct final rule.

Dated: June 24, 2010.

Lisa P. Jackson,

Administrator.

PART 80—REGULATION OF FUELS AND FUEL ADDITIVES

■ Accordingly, the definitions of "actual peak capacity," "baseline volume," and "permitted capacity" in 40 CFR 80.1401, and the amendments to 40 CFR 80.1403(a), 80.1425 introductory text and paragraph (i), 80.1426(d)(1) introductory text, 80.1426 Table 2, 80.1426(f)(3)(iv), 80.1426(f)(3)(v), 80.1426(f)(12), 80.1452(b) introductory text, (b)(2), (b)(4), (b)(6), (b)(9), (b)(13), and (b)(15), and 80.1452(c) introductory text, (c)(4), (c)(5), and (c)(7), that were published on May 10, 2010 (75 FR 26026) are withdrawn as of June 30, 2010.

[FR Doc. 2010–15881 Filed 6–29–10; 8:45 am]

BILLING CODE 6560–50–P

Federal Register

Friday,
August 20, 2010

Part III

Environmental Protection Agency

40 CFR Part 63
National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2008–0708, FRL–9190–3]

RIN 2060–AP36

National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is promulgating national emission standards for hazardous air pollutants for existing stationary spark ignition reciprocating internal combustion engines that either are located at area sources of hazardous air pollutant emissions or that have a site rating of less than or equal to 500 brake horsepower and are located at major sources of hazardous air pollutant emissions.

DATES: This final rule is effective on October 19, 2010.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2008–0708. EPA also relies on materials in Docket ID Nos. EPA–HQ–OAR–2002–0059, EPA–HQ–OAR–2005–0029, and EPA–HQ–OAR–2005–0030 and incorporates those dockets into the record for this final rule. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at the EPA Headquarters Library, Room Number 3334, EPA West Building, 1301 Constitution Ave., NW., Washington, DC. The EPA/DC Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket and Information Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Ms. Melanie King, Energy Strategies Group, Sector Policies and Programs Division (D243–01), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number (919) 541–2469; facsimile number (919) 541–5450; e-mail address *king.melanie@epa.gov*.

SUPPLEMENTARY INFORMATION:

Background Information Document. On March 5, 2009 (71 FR 9698), EPA proposed national emission standards for hazardous air pollutants (NESHAP) for existing stationary reciprocating internal combustion engines (RICE) that either are located at area sources of hazardous air pollutants (HAP) emissions or that have a site rating of less than or equal to 500 brake horsepower (HP) and are located at major sources of HAP emissions. A summary of the public comments on the proposal and EPA's responses to the comments, as well as the Regulatory Impact Analysis Report, are available in Docket ID No. EPA–HQ–OAR–2008–0708.

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

I. General Information
A. Does this action apply to me?
B. Where can I get a copy of this document?
C. Judicial Review
II. Background
III. Summary of This Final Rule
A. What is the source category regulated by this final rule?
B. What are the pollutants regulated by this final rule?
C. What are the final requirements?
D. What are the operating limitations?
E. What are the requirements for demonstrating compliance?
F. What are the reporting and recordkeeping requirements?
IV. Summary of Significant Changes Since Proposal
A. Applicability
B. Final Emission Standards
C. Management Practices
D. Startup, Shutdown and Malfunction
E. Method 323
F. Other
V. Summary of Responses to Major Comments
A. Applicability
B. Emission Standards
C. Management Practices
D. Method 323
E. Other
VI. Summary of Environmental, Energy and Economic Impacts
A. What are the air quality impacts?
B. What are the cost impacts?
C. What are the benefits?
D. What are the economic impacts?
E. What are the non-air health, environmental and energy impacts?
VII. 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 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. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act

I. General Information

A. Does this action apply to me?

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

Category	NAICS [1]	Examples of regulated entities
Any industry using a stationary internal combustion engine as defined in this final rule.	2211	Electric power generation, transmission, or distribution.
	622110	Medical and surgical hospitals.
	48621	Natural gas transmission.
	211111	Crude petroleum and natural gas production.
	211112	Natural gas liquids producers.
	92811	National security.

[1] North American Industry Classification System.

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 engine is regulated by this action, you should examine the

applicability criteria of this 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.

B. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Worldwide Web (WWW) through the Technology Transfer Network (TTN). Following signature, a copy of this final action will be posted on the TTN's 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.

C. Judicial Review

Under section 307(b)(1) of the Clean Air Act (CAA), judicial review of this final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by October 19, 2010. Under section 307(d)(7)(B) of the CAA, only an objection to this final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the CAA, the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

Section 307(d)(7)(B) of the CAA further provides that "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review." This section also provides a mechanism for us to convene a proceeding for reconsideration, "[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule." Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

II. Background

This action promulgates NESHAP for existing stationary spark ignition (SI) RICE with a site rating of less than or equal to 500 HP located at major sources, and existing stationary SI RICE of any site rating located at area sources. EPA is finalizing these standards to meet its statutory obligation to address HAP emissions from these sources under sections 112(d), 112(c)(3) and 112(k) of the CAA. The final NESHAP for stationary RICE will be promulgated under 40 CFR part 63, subpart ZZZZ, which already contains standards applicable to new and reconstructed stationary RICE and some existing stationary RICE.

EPA promulgated NESHAP for existing, new, and reconstructed stationary RICE greater than 500 HP located at major sources on June 15, 2004 (69 FR 33474). EPA promulgated NESHAP for new and reconstructed stationary RICE that are located at area sources of HAP emissions and for new and reconstructed stationary RICE that have a site rating of less than or equal to 500 HP that are located at major sources of HAP emissions on January 18, 2008 (73 FR 3568). On March 3, 2010, EPA promulgated NESHAP for existing stationary compression ignition (CI) RICE with a site rating of less than or equal to 500 HP located at major sources, existing non-emergency CI engines with a site rating greater than 500 HP at major sources, and existing stationary CI RICE of any site rating located at area sources (75 FR 9674).

III. Summary of This Final Rule

A. What is the source category regulated by this final rule?

This final rule addresses emissions from existing stationary SI engines less than or equal to 500 HP located at major sources and all existing stationary SI engines located at area sources. A major source of HAP emissions is generally a stationary source that emits or has the potential to emit 10 tons per year or more of any single HAP or 25 tons per year or more of any combination of HAP. An area source of HAP emissions is a stationary source that is not a major source.

This action revises the regulations at 40 CFR part 63, subpart ZZZZ. Through this action, we are adding to 40 CFR part 63, subpart ZZZZ requirements for: existing SI stationary RICE less than or equal to 500 HP located at major sources of HAP and existing SI stationary RICE located at area sources of HAP.

1. Existing Stationary SI RICE ≤ 500 HP at Major Sources of HAP

This action revises 40 CFR part 63, subpart ZZZZ, to address HAP emissions from existing stationary SI RICE less than or equal to 500 HP located at major sources of HAP. For stationary engines less than or equal to 500 HP at major sources, EPA must determine what is the appropriate maximum achievable control technology (MACT) for those engines under sections 112(d)(2) and (d)(3) of the CAA.

EPA has divided stationary SI RICE less than or equal to 500 HP located at major sources of HAP into the following subcategories:

- Non-emergency 2-stroke lean burn (2SLB) stationary SI RICE 100–500 HP;
- Non-emergency 4-stroke lean burn (4SLB) stationary SI RICE 100–500 HP;
- Non-emergency 4-stroke rich burn (4SRB) stationary SI RICE 100–500 HP;
- Non-emergency landfill and digester gas stationary SI RICE 100–500 HP;
- Non-emergency stationary SI RICE < 100 HP; and
- Emergency stationary SI RICE.

2. Existing Stationary SI RICE at Area Sources of HAP

This action revises 40 CFR part 63, subpart ZZZZ, in order to address HAP emissions from existing stationary SI RICE located at area sources of HAP. Section 112(d) of the CAA requires EPA to establish NESHAP for both major and area sources of HAP that are listed for regulation under CAA section 112(c). As noted above, an area source is a stationary source that is not a major source.

Section 112(k)(3)(B) of the CAA calls for EPA to identify at least 30 HAP that, as a result of emissions of area sources, pose the greatest threat to public health in the largest number of urban areas. EPA implemented this provision in 1999 in the Integrated Urban Air Toxics Strategy (64 FR 38715, July 19, 1999). Specifically, in the Strategy, EPA identified 30 HAP that pose the greatest potential health threat in urban areas, and these HAP are referred to as the "30 urban HAP." Section 112(c)(3) of the CAA requires EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the emissions of the 30 urban HAP are subject to regulation. EPA implemented these requirements through the Integrated Urban Air Toxics Strategy (64 FR 38715,

July 19, 1999). The area source stationary engine source category was one of the listed categories. A primary goal of the Strategy is to achieve a 75 percent reduction in cancer incidence attributable to HAP emitted from stationary sources.

Under CAA section 112(d)(5), EPA may elect to promulgate standards or requirements for area sources "which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants." Additional information on generally available control technologies (GACT) and management practices is found in the Senate report on the legislation (Senate report Number 101–228, December 20, 1989), which describes GACT as:

> * * * methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

Consistent with the legislative history, EPA can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories, like this one, that have many small businesses.

Determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category. EPA also considers the standards applicable to major sources in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, EPA may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue. Finally, as EPA has already noted, in determining GACT for a particular area source category, EPA considers the costs and economic impacts of available control technologies and management practices on that category.

The urban HAP that must be regulated from stationary SI RICE to achieve the CAA section 112(c)(3) requirement to regulate categories accounting for 90 percent of the urban HAP are: 7 polycyclic aromatic hydrocarbons (PAH), formaldehyde, and acetaldehyde.

Similar to existing stationary SI RICE at major sources, EPA has also divided the existing stationary SI RICE at area sources into subcategories in order to properly take into account the differences between these engines. The subcategories for existing stationary SI RICE at area sources are as follows:

- Non-emergency 2SLB stationary SI RICE
- Non-emergency 4SLB stationary SI RICE
  - ≤500 HP
  - >500 HP that operate more than 24 hours per calendar year
  - >500 HP that operate 24 hours or less per calendar year
- Non-emergency 4SRB stationary SI RICE
  - ≤500 HP that operate more than 24 hours per calendar year
  - >500 HP that operate 24 hours or less per calendar year
- Non-emergency landfill and digester gas stationary SI RICE
- Emergency stationary SI RICE.

B. What are the pollutants regulated by this final rule?

This final rule regulates emissions of HAP. Available emissions data show that several HAP, which are formed during the combustion process or which are contained within the fuel burned, are emitted from stationary engines. The HAP which have been measured in emission tests conducted on SI stationary RICE include: Formaldehyde, acetaldehyde, acrolein, methanol, benzene, toluene, 1,3-butadiene, 2,2,4-trimethylpentane, hexane, xylene, naphthalene, PAH, methylene chloride, and ethylbenzene. EPA described the health effects of these HAP and other HAP emitted from the operation of stationary RICE in the preamble to 40 CFR part 63, subpart ZZZZ, published on June 15, 2004 (69 FR 33474). More detail on the health effects of these HAP and other HAP emitted from the operation of stationary RICE can be found in the Regulatory Impact Analysis (RIA) for this final rule. These HAP emissions are known to cause, or contribute significantly to air pollution, which may reasonably be anticipated to endanger public health or welfare.

For the standards being finalized in this action, EPA believes that previous determinations regarding the appropriateness of using formaldehyde and carbon monoxide (CO) both in concentration (parts per million (ppm)) levels as surrogates for HAP for stationary RICE are still valid. Consequently, EPA is promulgating CO or formaldehyde standards in order to regulate HAP emissions.

In addition to reducing HAP, the emission control technologies that will be installed on stationary RICE to reduce HAP will also reduce CO and VOC, and for rich burn engines will also reduce NO_X.

C. What are the final requirements?

1. Existing Stationary SI RICE ≤500 HP at Major Sources of HAP

The numerical emission standards that are being finalized in this action for existing stationary non-emergency SI RICE less than or equal to 500 HP located at major sources of HAP are shown in Table 1 of this preamble. The emission standards are in units of ppm by volume, dry basis (ppmvd).

TABLE 1—EMISSION STANDARDS FOR EXISTING STATIONARY SI RICE >500 HP LOCATED AT MAJOR SOURCES OF HAP

Subcategory	Except during periods of startup
2SLB Non-Emergency 100≤HP≤500	225 ppmvd CO at 15% O_2.
4SLB Non-Emergency 100≤HP≤500	47 ppmvd CO at 15% O_2.
4SRB Non-Emergency 100≤HP≤500	10.3 ppmvd formaldehyde at 15% O_2.
Landfill/Digester Gas Non-Emergency 100≤HP≤500	177 ppmvd CO at 15% O_2.

EPA is finalizing work practice standards for existing emergency stationary SI RICE less than or equal to 500 HP located at major sources of HAP and existing non-emergency stationary SI RICE less than 100 HP located at major sources of HAP. Existing stationary emergency SI RICE less than or equal to 500 HP located at major sources of HAP are subject to the following work practices:

- Change oil and filter every 500 hours of operation or annually, whichever comes first, except that sources can extend the period for changing the oil if the oil is part of an oil analysis program as discussed below and none of the condemning limits are exceeded;
- Inspect spark plugs every 1,000 hours of operation or annually,

whichever comes first, and replace as necessary; and

• Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Existing stationary non-emergency SI RICE less than 100 HP located at major sources of HAP that are not 2SLB stationary RICE are subject to the following work practices:

• Change oil and filter every 1,440 hours of operation or annually, whichever comes first, except that sources can extend the period for changing the oil if the oil is part of an oil analysis program as discussed below and none of the condemning limits are exceeded;

• Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and

• Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

Existing 2SLB stationary SI RICE less than 100 HP located at major sources of HAP are subject to the following work practices:

• Change oil and filter every 4,320 hours of operation or annually, whichever comes first, except that sources can extend the period for changing the oil if the oil is part of an oil analysis program as discussed below and none of the condemning limits are exceeded;

• Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and

• Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.

Sources also have the option to use an oil change analysis program to extend the oil change frequencies specified above. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The analysis must be conducted at the same frequencies specified for changing the engine oil. If the condemning limits provided below are not exceeded, the engine owner or operator is not required to change the oil. If any of the condemning limits are exceeded, the engine owner or operator must change the oil within two days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within two days or before commencing operation, whichever is later. The condemning limits are as follows:

• Total Acid Number increases by more than 3.0 milligrams potassium hydroxide per gram from Total Acid Number of the oil when new; or

• Viscosity of the oil changes by more than 20 percent from the viscosity of the oil when new; or

• Percent water content (by volume) is greater than 0.5.

Pursuant to the provisions of 40 CFR 63.6(g), sources can also request that the Administrator approve alternative work practices.

2. Existing Stationary SI RICE at Area Sources of HAP

The numerical emission standards that EPA is finalizing for non-emergency 4SLB stationary SI RICE and non-emergency 4SRB stationary SI RICE located at area sources of HAP are shown in Table 2.

TABLE 2—NUMERICAL EMISSION STANDARDS FOR EXISTING NON-EMERGENCY 4SLB STATIONARY SI RICE >500 HP LOCATED AT AREA SOURCES OF HAP AND EXISTING NON-EMERGENCY 4SRB STATIONARY SI RICE >500 HP LOCATED AT AREA SOURCES OF HAP

Subcategory	Except during periods of startup
4SLB Non-Emergency >500 HP that operate more than 24 hours per calendar year.	47 ppmvd CO at 15% O_2 or 93% CO reduction.
4SRB Non-Emergency >500 HP that operate more than 24 hours per calendar year.	2.7 ppmvd formaldehyde at 15% O_2 or 76% formaldehyde reduction.

EPA is finalizing management practices for existing non-emergency 4SLB stationary SI RICE less than or equal to 500 HP located at area sources of HAP, existing non-emergency 4SLB stationary SI RICE greater than 500 HP located at area sources of HAP that operate 24 hours or less per calendar year, existing non-emergency 4SRB stationary SI RICE less than or equal to 500 HP located at area sources of HAP, existing non-emergency 4SRB stationary SI RICE greater than 500 HP located at area sources of HAP that operate 24 hours or less per calendar year, existing 2SLB non-emergency stationary SI RICE located at area sources of HAP, existing non-emergency landfill and digester gas stationary RICE located at area sources of HAP, and existing emergency stationary SI RICE located at area sources of HAP.

Existing non-emergency 4SLB and 4SRB stationary SI RICE less than or equal to 500 HP located at area sources of HAP and existing landfill or digester gas non-emergency stationary SI RICE located at area sources of HAP are subject to the following management practices:

• Change oil and filter every 1,440 hours of operation or annually, whichever comes first, except that sources can extend the period for changing the oil if the oil is part of an oil analysis program as discussed below and none of the condemning limits are exceeded;

• Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and

• Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

Existing stationary 2SLB non-emergency engines located at area sources of HAP are subject to the following management practices:

• Change oil and filter every 4,320 hours of operation or annually, whichever comes first, except that sources can extend the period for changing the oil if the oil is part of an oil analysis program as discussed below and none of the condemning limits are exceeded;

• Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and

• Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.

Existing stationary emergency SI RICE located at area sources of HAP and existing non-emergency 4SLB and 4SRB stationary SI RICE greater than 500 HP located at area sources of HAP that operate 24 hours or less per calendar year are subject to the following management practices:

• Change oil and filter every 500 hours of operation or annually, whichever comes first, except that sources can extend the period for changing the oil if the oil is part of an oil analysis program as discussed below and none of the condemning limits are exceeded;

• Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and

• Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

As discussed above for major sources, these sources may utilize an oil analysis program, as described above, to extend the specified oil change requirement specified above. Also, sources have the option to work with State permitting authorities pursuant to EPA's regulations at 40 CFR subpart E ("Approval of State Programs and Delegation of Federal Authorities") for approval of alternative management practices. 40 CFR subpart E implements section 112(l) of the CAA, which authorizes EPA to approve alternative State/local/tribal HAP standards or programs when such requirements are demonstrated to be no less stringent than EPA promulgated standards.

3. Startup Requirements

Existing stationary SI RICE less than or equal to 500 HP located at major sources of HAP and existing stationary SI RICE located at area sources of HAP must meet specific operational standards during engine startup. Engine startup is defined as the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engines with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state, or normal operation, including the catalyst. Owners and operators must minimize the engine's time spent at idle and minimize the engine's startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the engine must meet the otherwise applicable emission standards. These requirements will limit the HAP emissions during periods of engine startup. Pursuant to the provisions of 40 CFR 63.6(g), engines at major sources may petition the Administrator for an alternative work practice. An owner or operator of an engine at an area source can work with its State permitting authority pursuant to EPA's regulations at 40 CFR subpart E for approval of an alternative management practice. See 40 CFR subpart E (setting forth requirements for, among other things, equivalency by permit, rule substitution).

D. What are the operating limitations?

In addition to the standards discussed above, EPA is finalizing operating limitations for existing stationary non-emergency 4SLB and 4SRB RICE that are greater than 500 HP, located at an area source of HAP, and operated more than 24 hours per calendar year. Owners and operators of engines that are equipped with oxidation catalyst or non-selective catalytic reduction (NSCR) must maintain the catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test. If the engine is equipped with oxidation catalyst, owners and operators must also maintain the temperature of the stationary RICE exhaust so that the catalyst inlet temperature is between 450 and 1,350 degrees Fahrenheit (°F). If the engine is equipped with NSCR, owners and operators must maintain the temperature of the stationary RICE exhaust so that the NSCR inlet temperature is between 750 and 1,250 °F. Owners and operators may petition for a different temperature range; the petition must demonstrate why it is operationally necessary and appropriate to operate below the temperature range specified in this final rule (see 40 CFR 63.8(f)). Owners and operators of engines that are not using oxidation catalyst or NSCR must comply with any operating limitations approved by the Administrator.

E. What are the requirements for demonstrating compliance?

The following sections describe the requirements for demonstrating compliance under this final rule.

1. Existing Stationary SI RICE ≤500 at Major Sources of HAP

Owners and operators of existing stationary non-emergency SI RICE located at major sources that are less than 100 HP and existing stationary emergency SI RICE located at major sources must operate and maintain their stationary RICE and aftertreatment control device (if any) according to the manufacturer's emission-related written instructions or develop their own maintenance plan. The maintenance plan must specify how the work practices will be met and provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practices for minimizing emissions. Owners and operators of existing stationary non-emergency SI RICE located at major sources that are less than 100 HP and existing stationary emergency SI RICE located at major sources do not have to conduct any performance testing because they are not subject to numerical emission standards.

Owners and operators of existing stationary non-emergency SI RICE located at major sources that are greater than or equal to 100 HP and less than or equal to 500 HP must conduct an initial performance test to demonstrate that they are achieving the required emission standards.

2. Existing Stationary SI RICE at Area Sources of HAP

Owners and operators of existing stationary RICE located at area sources of HAP that are subject to management practices do not have to conduct any performance testing; they must develop a maintenance plan that specifies how the management practices will be met and provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practices for minimizing emissions. Owners and operators of existing 4SLB and 4SRB non-emergency stationary SI RICE that are greater than 500 HP, located at an area source of HAP, and operated more than 24 hours per calendar year must conduct an initial performance test to demonstrate compliance with the applicable emission limitations and must conduct subsequent performance testing every 8,760 hours of operation or 3 years, whichever comes first. Owners and operators of existing 4SLB and 4SRB non-emergency stationary SI RICE that are greater than 500 HP, located at an area source of HAP, and operated more than 24 hours per calendar year must continuously monitor and record the inlet temperature of the oxidation catalyst or NSCR and also take monthly measurements of the pressure drop across the oxidation catalyst or NSCR. If an oxidation catalyst or NSCR is not being used on the engine, the owner or operator must continuously monitor and record the operating parameters (if any) approved by the Administrator. As discussed in the March 3, 2010, final NESHAP for existing stationary CI RICE (75 FR 9648) and in section V.E., EPA is finalizing performance specification requirements in 40 CFR part 63, subpart ZZZZ for the continuous parametric monitoring systems used for continuous catalyst inlet temperature monitoring.

F. What are the reporting and recordkeeping requirements?

The following sections describe the reporting and recordkeeping requirements that are required under this final rule.

Owners and operators of existing stationary emergency SI RICE that do not meet the requirements for non-emergency engines are required to keep records of their hours of operation. Owners and operators of existing stationary emergency SI RICE must install a non-resettable hour meter on their engines to record the hours of operation of the engine.

Owners and operators of existing stationary SI RICE located at major sources that are subject to work practices and existing stationary SI RICE located at area sources that are subject to management practices are required to keep records that show that the work or management practices that are required are being met. These records must include, at a minimum: Oil and filter change dates and corresponding engine hours of operation (determined using hour meter, fuel consumption data, or other appropriate methods); inspection and replacement dates for spark plugs, hoses, and belts; and records of other emission-related repairs and maintenance performed.

In terms of reporting requirements, owners and operators of existing non-emergency stationary SI RICE greater than or equal to 100 HP and less than or equal to 500 HP located at major sources of HAP and existing non-emergency 4SLB and 4SRB stationary RICE greater than 500 HP located at area sources of HAP that operate more than 24 hours per calendar year must submit the notifications required in Table 8 of 40 CFR part 63, subpart ZZZZ, which lists the NESHAP General Provisions applicable to this rule. (40 CFR part 63, subpart A) These notifications include an initial notification, notification of performance test, and a notification of compliance for each stationary RICE which must comply with the specified emission limitations. Owners and operators of existing stationary non-emergency SI RICE greater than or equal to 100 HP and less than or equal to 500 HP located at major sources of HAP and existing stationary 4SLB and 4SRB non-emergency SI RICE greater than 500 HP located at area sources of HAP that operate more than 24 hours per calendar year must submit semiannual compliance reports.

IV. Summary of Significant Changes Since Proposal

A. Applicability

A change from the proposal is that this final rule is not applicable to existing stationary emergency engines at area sources that are located at residential, commercial, or institutional facilities. These engines are not subject to any requirements under this final rule because they are not part of the regulated source category. EPA has found that existing stationary emergency engines located at residential, commercial, and institutional facilities that are area sources were not included in the original Urban Air Toxics Strategy inventory and were not included in the listing of urban area sources. More information on this issue can be found in the memorandum titled, "Analysis of the Types of Engines Used to Estimate the CAA Section 112(k) Area Source Inventory for Stationary Reciprocating Internal Combustion Engines," available from the rulemaking docket. In the March 3, 2010, final NESHAP for existing stationary CI RICE (75 FR 9648), EPA included a definition for residential/commercial/institutional emergency stationary RICE. After the final rule was promulgated, EPA received numerous questions regarding the definition and whether certain types of facilities would meet the definition. In this final rule, EPA is separating the definition into individual definitions for residential emergency stationary RICE, commercial emergency stationary RICE, and institutional emergency stationary RICE, and is also providing additional examples of the types of facilities that would be included under those categories in the definitions. EPA has also prepared a memorandum to provide further guidance regarding the types of facilities that would or would not be considered residential, commercial, or institutional facilities. The memorandum is titled, "Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE," and is available in the rulemaking docket.

B. Final Emission Standards

1. Existing Stationary SI Engines ≤500 HP Located at Major Sources of HAP

EPA is revising the emission standards that it proposed for the subcategories of stationary SI engines less than or equal to 500 HP located at major sources. As discussed in section V.B., numerous commenters indicated that EPA's dataset used to establish the proposed emission limits was insufficient and urged EPA to gather more data to obtain a more complete representation of emissions from existing stationary SI engines. Commenters also questioned the emission standard setting approach that EPA used at proposal and claimed that the proposed standards did not take into account emissions variability. For this final rule, EPA has obtained additional test data for existing stationary SI engines and has included this additional data in the MACT floor analysis. EPA is also using an approach that better considers emissions variability, as discussed in V.B. below. EPA is also not using the Population Database to determine a percentage of engines that have emission controls installed, as it did at proposal. The Population Database has not been updated since 2000. It contains information regarding whether or not an engine has emission controls, but does not generally contain other types of emission-related information, like engine-out emissions or operational controls, and it does not include any emissions concentration data, which is necessary to determine the MACT floor. EPA determined that it would be more appropriate and more defensible to base the MACT floor analysis directly on the emissions data that EPA has for stationary SI engines, including data that was not used in the proposal. A more detailed discussion of both EPA's MACT floor and beyond-the-MACT-floor analysis can be found in the memorandum titled "MACT Floor and MACT Determination for Existing Stationary SI RICE ≤500 HP Located at Major Sources".

For 2SLB non-emergency engines, EPA proposed a limit of 85 ppmvd CO for engines from 50 to 249 HP and 8 ppmvd CO or 90 percent CO reduction for engines greater than or equal to 250 HP. EPA is finalizing an emission limit of 225 ppmvd CO for 2SLB non-emergency engines from 100 to 500 HP. For 4SLB non-emergency engines, EPA proposed a limit of 95 ppmvd CO for engines from 50 to 249 HP and 9 ppmvd CO or 90 percent CO reduction for engines greater than or equal to 250 HP. EPA is finalizing an emission limit of 47 ppmvd CO for 4SLB non-emergency engines from 100 to 500 HP. For 4SRB non-emergency engines from 50 to 500 HP, EPA proposed an emission limit of 200 ppbvd (parts per billion by volume, dry basis) formaldehyde or 90 percent formaldehyde reduction. EPA is finalizing an emission limit of 10.3 ppmvd formaldehyde for 4SRB non-emergency engines from 100 to 500 HP.

For landfill and digester gas engines, EPA proposed an emission limit of 177 ppmvd CO; EPA is finalizing an emission limit of 177 ppmvd CO.

For the proposed rule, EPA required existing stationary engines less than 50 HP that are located at major sources to meet a formaldehyde emission standard. As discussed in the final rule published on March 3, 2010, for existing stationary CI RICE (75 FR 9674), EPA is not finalizing a formaldehyde emission standard for stationary SI engines less than 50 HP, but is instead requiring compliance with work practices. In addition, in light of several comments asserting that the level at which EPA subcategorized small engines at major sources was inappropriate, EPA is finalizing a work practice standard for engines less than 100 HP. These work practices are described in section III.C. of this preamble. EPA believes that work practices are appropriate and justified for this group of stationary engines because the application of measurement methodology is not practicable due to technological and economic limitations. Further information on EPA's decision can be found in the memorandum titled, "MACT Floor and MACT Determination for Existing Stationary Non-Emergency SI RICE < 100 HP and Existing Stationary Emergency SI RICE Located at Major Sources and GACT for Existing Stationary SI RICE Located at Area Sources," which is available from the rulemaking docket.

For existing stationary emergency engines located at major sources, EPA proposed that these engines be subject to a 2 ppmvd formaldehyde emission standard. In this final rule, existing stationary emergency SI engines located at major sources of HAP must meet work practices. These work practices are described in section III.C. of this preamble. EPA believes that work practices are appropriate and justified for this group of stationary engines because the application of measurement methodology is not practicable due to technological and economic limitations. Further information on EPA's decision can be found in the memorandum titled, "MACT Floor and MACT Determination for Existing Stationary Non-Emergency SI RICE <100 HP and Existing Stationary Emergency SI RICE Located at Major Sources and GACT for Existing Stationary SI RICE Located at Area Sources," which is available from the rulemaking docket.

2. Existing Stationary SI Engines Located at Area Sources of HAP

EPA proposed numerical emission standards for the following stationary SI engines located at area sources of HAP: non-emergency 2SLB and 4SLB greater than or equal to 250 HP, non-emergency 4SRB greater than or equal to 50 HP, landfill and digester gas fired greater than 500 HP, and emergency greater than 500 HP. For the remaining engines at area sources, EPA proposed management practice standards.

In this final rule, EPA is promulgating numerical emission standards for non-emergency 4SLB and 4SRB stationary SI RICE larger than 500 HP located at area sources of HAP emissions that operate more than 24 hours per calendar year. For non-emergency 4SLB engines greater than 500 HP located at area sources of HAP, EPA proposed an emission limit of 9 ppmvd CO or 90 percent CO reduction; EPA is finalizing an emission limit of 47 ppmvd CO or 93 percent CO reduction. For non-emergency 4SRB engines greater than 500 HP located at area sources of HAP, EPA proposed an emission limit of 200 ppbvd formaldehyde or 90 percent formaldehyde reduction and is finalizing an emission limit of 2.7 ppmvd formaldehyde or 76 percent formaldehyde reduction. For stationary SI RICE located at area sources of HAP that are non-emergency 2SLB stationary SI RICE greater than or equal to 250 HP, non-emergency 4SLB stationary SI RICE between 250 and 500 HP, non-emergency 4SRB stationary SI RICE between 50 and 500 HP, landfill/digester gas stationary SI RICE greater than 500 HP, or emergency stationary SI RICE greater than 500 HP, EPA is finalizing management practices rather than numeric emission limitations as proposed. EPA is also finalizing management practices for non-emergency 4SLB and 4SRB stationary SI RICE that are greater than 500 HP, located at area sources of HAP, and operated 24 hours or less per calendar year.

C. Management Practices

EPA proposed management practices for several subcategories of engines located at area sources. EPA explained that the proposed management practices would be expected to ensure that emission control systems are working properly and would help minimize HAP emissions from the engines. EPA proposed specific maintenance practices and asked for comments on the need and appropriateness for those procedures. Based on feedback received during the public comment period, which included information submitted in comment letters and additional information EPA received following the close of the comment period from different industry groups, EPA is finalizing management practices for existing stationary 2SLB non-emergency SI engines located at area sources of HAP, existing stationary 4SLB and 4SRB non-emergency SI engines less than or equal to 500 HP located at area sources of HAP; existing stationary landfill and digester gas non-emergency engines located at area sources of HAP; and existing emergency stationary SI engines located at area sources of HAP.

Based on the comments on the proposal and additional information received from stakeholders, EPA made changes to the intervals for the management practices from the proposal. EPA is also adding an option for sources to use an oil change analysis program to extend the oil change frequencies specified above. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. If the condemning limits for these parameters are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within two days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within two days or before commencing operation, whichever is later. Owners and operators of all engines subject to management practices also have the option to work with State permitting authorities pursuant to EPA's regulations at 40 CFR subpart E for alternative management practices to be used instead of the specific management practices promulgated in this final rule. The management practices must be at least as stringent as those specified in this final rule.

D. Startup, Shutdown, and Malfunction

EPA proposed formaldehyde and CO emission standards for existing stationary engines at major sources to apply during periods of startup and malfunction. EPA also proposed certain standards for existing stationary engines at area sources that would apply during startup and malfunction. EPA did not propose distinct standards for periods of shutdown. EPA proposed that engines would be subject to the same standards during shutdown as are applicable during other periods of operation.

Based on various comments and concerns with the proposed emission standards for periods of startup, EPA has determined that it is not feasible to finalize numerical emission standards that would apply during startup because the application of measurement methodology to this operation is not

practicable due to technological and economic limitations. This issue is discussed in detail in the final rule published on March 3, 2010 (75 FR 9674), and as discussed in the Response to Comments for this rule, the analysis is the same for the engines regulated in this final rule.

As a result, EPA is extending the operational standards during startup it promulgated in the March 3, 2010, final rule (75 FR 9674), which specify that owners and operators must limit the engine startup time to no more than 30 minutes and must minimize the engine's time spent at idle during startup, to the engines newly subject to regulation in this rule.

With respect to malfunctions, EPA proposed two options for subcategories where the proposed emission standard was based on the use of catalytic controls. The first proposed option was to have the same standards apply during normal operation and malfunctions. The second proposed option was that standards during malfunctions be based on emissions expected from the best controlled sources prior to the full warm-up of the catalytic control. For subcategories where the proposed emission standard was not based on the use of catalytic controls, we proposed the same emission limitations apply during malfunctions and periods of normal operations. EPA is finalizing the first option described above, which is that the same standards apply during normal operation and malfunctions. In the proposed rule, EPA expressed the view that there are different modes of operation for any stationary source, and that these modes generally include startup, normal operations, shutdown, and malfunctions. However, as discussed in detail in the final rule published on March 3, 2010 (75 FR 9674), and as discussed in the Response to Comments for this rule, after considering the issue of malfunctions more carefully, EPA has determined that malfunctions should not be viewed as a distinct operating mode and, therefore, any emissions that occur at such times do not need to be factored into development of CAA section 112(d) standards, which, once promulgated, apply at all times. In addition, as discussed in detail in the final rule published on March 3, 2010 (75 FR 9674), and as discussed in the Response to Comments for this rule, EPA believes that malfunctions will not cause stationary engines to violate the standard that applies during normal operations. Therefore, the standards that apply during normal operation also apply during malfunction.

E. Method 323

EPA proposed to remove Method 323 as an option for determining compliance with formaldehyde emission limitations in 40 CFR part 63, subpart ZZZZ. EPA Method 323 was first proposed as part of the NESHAP for Stationary Combustion Turbines published January 14, 2003, (68 FR 1888) for measuring formaldehyde emissions from natural gas-fired sources. However, the method was not included in the final Stationary Combustion Turbines NESHAP due to reliability concerns and EPA never promulgated EPA Method 323 as a final standard in 40 CFR part 63, appendix A. Due to unresolved technical issues with the method affecting engine test results, EPA found it appropriate to propose to remove the method from 40 CFR part 63, subpart ZZZZ. As discussed in greater detail in section V.D., after EPA proposed to remove Method 323 as a compliance test Method, the Agency received test data comparing Method 323 to EPA Method 320. The results of this comparison testing showed good agreement between the two methods and there was no evidence of bias in the results from Method 323. Therefore, EPA has determined that it is appropriate to promulgate Method 323 and to allow it as an option for measuring formaldehyde in 40 CFR part 63, subpart ZZZZ.

F. Other

EPA is making several minor clarifications to this final rule to address comments that the provisions were confusing and difficult for affected sources to understand. One clarification is to individually list out the engines discussed in 40 CFR 63.6590(b)(3) and (c) instead of having them in a single paragraph. The definition of emergency stationary RICE and the provisions for emergency stationary RICE in 40 CFR 63.6640(f) have been reorganized in order to provide more clarity regarding those provisions and to more clearly specify that all emergency stationary RICE must comply with the requirements specified in 40 CFR 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in 40 CFR 63.6640(f), then it is not considered to be an emergency stationary RICE. Minor clarifications have also been made to the tables to provide additional clarification on the applicability of the requirements in the tables.

V. Summary of Responses to Major Comments

A. Applicability

Comment: Numerous commenters expressed concern over EPA's decision to not distinguish between rural and urban engines at area sources in the proposed rule. Several commenters requested that EPA reevaluate its congressional authority to regulate area HAP sources in rural areas. The commenters believed that the proposal is inconsistent with 42 U.S.C. 7412(n)(4)(B) [CAA section 112(n)(4)(B)]. Commenters requested clarification of EPA's rationale to regulate low levels of emissions from engines at oil and gas production facilities outside metropolitan areas, contending that EPA has applied this rule more broadly than the Congressional intent of the CAA, and requested that EPA reevaluate this issue of whether EPA can regulate rural area sources in light of the 42 U.S.C. 7412(n)(4)(B) language.

Commenters stated that EPA has based this rulemaking for area sources on sections of the CAA and its Urban Air Toxics Strategy that are intended to remove threats to public health in urban areas. The commenters do not believe that the remote RICE at area sources in the oil and gas industry threaten public health in urban areas. Several commenters noted that the NESHAP for glycol gas dehydrators (40 CFR part 63, subpart HH) takes into account the location of area sources and does not apply the specific requirements of the rule to rural area sources. The commenters believe that the same approach should be used for the RICE rule, *i.e.*, engines that are not located in or near populated areas should be subject to an alternative set of requirements so as not to force expensive requirements on remote engines that have no impact on public health.

Response: EPA is finalizing its proposal to regulate existing stationary SI engines located at area sources on a nationwide basis. EPA believes that the CAA provides the Agency with the authority to regulate area sources nationwide. Section 112(k)(1) of the CAA states that "It is the purpose of this subsection to achieve a substantial reduction in emissions of hazardous air pollutants from area sources and an equivalent reduction in the public health risks associated with such sources including a reduction of not less than 75 per centum in the incidence of cancer attributable to emissions from such sources." Consistent with this expressed purpose of section 112(k) of

the CAA to reduce both emissions and risks, CAA section 112(k)(3)(i) requires that EPA list not less than 30 HAP that, as a result of emissions from area sources, present the greatest threat to public health in the largest number of urban areas. Sections 112(c)(3) and (k)(3)(ii) of the CAA require that EPA list area source categories that represent not less than 90 percent of the area source emissions of each of the listed HAP. Section 112(c) of the CAA requires that EPA issue standards for listed categories under CAA section 112(d). These relevant statutory provisions authorize EPA to regulate listed area source engines and not just engines located in urban areas. EPA believes that sections 112(c) and 112(k) of the CAA do not prohibit issuing area source rules of national applicability. EPA also disagrees with the statement that the proposal was inconsistent with section 112(n)(4)(B) of the CAA. The term "associated equipment" was defined for the purposes of 40 CFR part 63, subpart ZZZZ in the first RICE MACT rule not to include stationary RICE. EPA has not revisited that issue in this final rule and the commenters have not provided sufficient reason to revisit that issue.

EPA has taken steps in the final rule that reduce the burden on owners and operators of engines regulated in this final rule. EPA has established management practice standards for most of the engines located at area sources of HAP. The only existing stationary SI RICE at area sources that are required to meet numeric emission limitations are 4SLB and 4SRB non-emergency stationary SI RICE that are greater than 500 HP and operate more than 24 hours per calendar year; these engines are estimated to be only 7 percent of the population of existing SI RICE at area sources. EPA believes that requiring management practices instead of specific emission limitations and/or control efficiency requirements on the vast majority of existing stationary SI engines at area sources alleviates concerns regarding costly and burdensome requirements for rural sources.

EPA has also determined that existing emergency engines located at residential, institutional, and commercial facilities that are area sources of HAP emissions were not included in the original Urban Air Toxics Strategy inventory and therefore are not included in the source category listing. In this final rule, EPA has specified that those engines are not subject to 40 CFR part 63, subpart ZZZZ. EPA has clarified the definitions of these existing emergency engines in this final rule. As further clarification, EPA notes that existing emergency engines located at, among other things, industrial facilities, would not be affected by this determination and are subject to 40 CFR part 63, subpart ZZZZ.

For existing stationary 4SLB and 4SRB non-emergency SI engines greater than 500 HP located at area sources that operate more than 24 hours per calendar year, EPA determined that the appropriate standards are numerical standards that provide for the use of oxidation catalyst or NSCR control, respectively, which are generally available control technologies for those subcategories. The commenters did not provide a reason that GACT would be different for non-emergency stationary SI engines located in rural areas. In determining GACT, EPA can consider factors such as availability and feasibility of control technologies and management practices, as well as costs and economic impacts. These factors are not expected to be significantly different for existing stationary non-emergency SI engines in urban versus rural areas. For example, the availability of oxidation catalysts would be the same for urban and rural engines, and if an engine was in a rural location, that would not preclude an owner from being able to install aftertreatment controls. For this final rule, EPA estimated the capital cost of retrofitting an existing stationary 4SLB non-emergency SI engine with an oxidation catalyst to be around $9,500 for a 500 HP engine. Annual costs of operating and maintaining the control device are estimated to be approximately $4,300 per year for the same engine. For a 500 HP 4SRB engine, EPA estimated the costs for NSCR are a capital cost of $26,000 and an annual cost of $8,000. These costs would not be prohibitive for any engines in either rural or urban areas and are expected to be the same no matter the location. Furthermore, the controls that are expected to be used on these engines will have the co-benefit of reducing VOC and CO emissions and, for non-emergency 4SRB engines above 500 HP will have the co-benefit of reducing NO_X emissions. This final rule is expected to reduce emissions of NO_X from stationary SI RICE located at area sources by 96,000 tons per year (tpy) in the year 2013. Reductions of CO and VOC from stationary SI RICE located at area sources are estimated to be 97,000 and 24,000 tpy, respectively, in the year 2013. There is also no reason to distinguish between the rural and urban area source engines that are subject to management practices. There is nothing limiting owners and operators of existing stationary SI engines located in rural areas from following the management practices specified in this final rule, and the management practices required by this final rule are appropriate for all engines, whether they are in rural or urban locations.

Consistent with the proposal and for the reasons discussed, EPA is finalizing national requirements for existing stationary SI engines at area sources without a distinction between urban and non-urban areas.

B. Emission Standards

Comment: Multiple commenters were concerned with how EPA set the MACT floor for the proposed rule. The commenters believed that the emissions data was not adequate to conduct a MACT floor analysis. Several commenters said that EPA has not considered variability in setting the MACT floor for the proposed rule. A commenter cited the recent Brick MACT ruling which indicated that "floors may legitimately account for variability [in the best performing sources that are the MACT floor basis] because "each [source] must meet the [specified] standard every day and under all operating conditions." The commenters stated EPA's data set is not sufficient in covering variability. One commenter noted that the Courts have been critical of EPA's process for setting minimum allowable emission limits. The commenter stated that EPA set the emission limits by averaging the best 12 percent of all performance tests for each subcategory, but did not consider operational variations of the units. The commenter recommended that EPA set emission limits at the emissions level that is actually achieved under the worst reasonably foreseeable circumstances for the best performing 12 percent of existing sources.

Response: The CAA requires EPA to set MACT standards based on the test data that is available to the Agency and this is what EPA did at proposal. EPA recognized that it had limited emissions test data at the time it was developing the proposed rule. However, EPA had requested additional test data to supplement the emissions database from commenters during the development of previous rules for stationary engines. In addition, EPA requested additional test data during the comment period for the current engine rulemaking. EPA made an additional effort post-proposal to reach out to industry and other sources in order to supplement the existing emission data set. EPA received data for an additional 619 engines during the post-proposal period; this data was incorporated into the MACT floor

analysis for this final rule. EPA also identified additional emissions data for stationary 4SLB SI RICE that was in the docket for the original RICE NESHAP rulemaking, docket EPA–HQ–OAR–2002–0059. These data were inadvertently omitted from the MACT floor analysis for the proposed rule, but have been incorporated into the analysis for the final rule, along with the additional emissions data received post-proposal. EPA placed all additional data into the docket for this rule. Stakeholders who believe that further review of this information is in order or necessary can petition for reconsideration of this final rule.

The U.S. Court of Appeals for the D.C. Circuit has recognized that EPA may consider variability in estimating the degree of emission reduction achieved by best-performing sources and in setting MACT floors. *See Mossville Envt'l Action Now* v. *EPA*, 370 F.3d 1232, 1241–42 (D.C. Cir 2004). EPA has included a revised approach to variability in the MACT floor analysis for this final rule. The final emission standards are based on test data collected from stationary engines produced by different engine manufacturers, operating at various loads and other conditions, and located in various types of service and locations. The engines range in size from 39 HP to 12,000 HP. The data includes engines operating at loads from 11 to 100 percent. To the extent commenters believed further data would have been beneficial to EPA, EPA must make its determinations based on the information available to us. EPA asked for further data, and EPA did receive further data following the proposal, which led to changes in the final regulations. For engines operating at reduced speed or loads resulting in a reduced exhaust temperature, EPA believes that numerical emission requirements are still appropriate and there is no justification to only require work practice standards during these situations. EPA does not believe that the provisions of section 112(h) of the CAA are met (except as discussed elsewhere with regard to periods of start-up, emergency engines, and engines below 100 HP) because testing is not economically and technologically impractical and the emissions can be readily routed through a conveyance for purposes of emission testing. EPA believes that the final emission standards will reflect the numerous engine models and operating scenarios that can be expected from stationary engines.

In order to determine the MACT floor for each subcategory, EPA ranked all of the sources for which it had data based on their emissions and identified the lowest emitting 12 percent of the sources based on the lowest test for each engine. EPA used all of the emissions data for those best performing engines to determine the emission limits for this final rule, accounting for variability. EPA notes that as a result of using emissions testing data directly to determine the MACT, rather than using the Population Database, the final MACT floor for 4SLB engines was calculated using data from engines with emissions aftertreatment, which were the best performing 12% of engines in the emissions database.

EPA assessed the variability of the best performers by using a statistical formula designed to estimate a MACT floor level that is achieved by the average of the best performing sources if the best performing sources were able to replicate the compliance tests in our data set. Specifically, the MACT floor limit is an upper prediction limit (UPL) calculated with the Student's t-test using the TINV function in Microsoft Excel. The Student's t-test has also been used in other EPA rulemakings (*e.g.*, New Source Performance Standards for Hospital/Medical/Infectious Waste Incinerators, Proposed NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters) in accounting for variability. A prediction interval for a future observation is an interval that will, with a specified degree of confidence, contain the next (or some other pre-specified) randomly selected observation from a population. In other words, the prediction interval estimates what future values will be, based upon present or past background samples taken. Given this definition, the UPL represents the value which EPA can expect the mean of 3 future observations (3-run average) to fall below, based upon the results of an independent sample from the same population. In other words, if EPA were to randomly select a future test condition from any of these sources (*i.e.*, average of 3 runs), EPA can be 99 percent confident that the reported level will fall at or below the UPL value. To calculate the UPL, EPA used the average (or sample mean) and sample standard deviation, which are two statistical measures calculated from the sample data. The average is the central value of a data set, and the standard deviation is the common measure of the dispersion of the data set around the average. This approach reasonably ensures that the emission limit selected as the MACT floor adequately represents the level of emissions actually achieved by the average of the units in the top 12 percent, considering ordinary operational variability of those units. Both the analysis of the measured emissions from units representative of the top 12 percent, and the variability analysis, are 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.

Comment: Commenters stated that EPA should reevaluate its GACT determinations for engines located at area sources. Commenters stated that EPA is not required to consider the MACT floor as a minimum standard for area sources, but may instead elect to promulgate standards or requirements for area sources which provide for the use of GACT or management practices by such sources to reduce emissions of HAP. The commenters stated that EPA must consider not only the economic impacts and whether the methods, practices, and techniques are commercially available and appropriate for application by the sources in the category, but also the technical capabilities of the firms to operate and maintain the emissions controls systems. The commenters pointed out that unlike engines located at major sources, which are often large industrial facilities, many engines at area sources are owned and operated by small businesses with little or no experience dealing with complex regulatory issues and with minimal technical and financial resources. Commenters said that EPA's GACT determination for engines located at area sources does not adequately account for the variation in engines that would be covered under the proposed control requirements when applied to area sources. The commenters listed several factors (engine size, cost effectiveness of control devices, engine usage and duty cycles, engine location) that must be considered in assessing whether and to what degree existing engines at area sources should be regulated. Commenters recommended defining a size based subcategory for area sources for natural gas-fired 4SRB engines similar to the size threshold used for CI engines. The commenters recommended that the subcategory or subcategories would require GACT management practices rather than emission standards based on catalytic control. At a minimum, the commenters recommended that subcategories be included in the proposed rule for rural area source natural gas-fired 4SRB engines from 50 HP to 500 HP.

Response: EPA has reviewed its proposed requirements for existing SI engines at area sources based on comments received on the proposed rule. For existing non-emergency 4SRB and 4SLB stationary SI RICE greater than 500 HP at area sources that operate more than 24 hours per calendar year, EPA determined for the final rule that it is appropriate to set numerical emission limits that EPA expects would be met using emission control technologies. The costs and economic impacts are reasonable and the control technologies that would be expected to be used are generally available for these area source engines.

For the remaining existing stationary SI RICE at area sources, the final rule requires management practices. EPA received comments and supporting information indicating that EPA had underestimated the cost of emission controls and overestimated how many engines were already using these controls. EPA reevaluated the cost impacts associated with establishing numeric emission limitations for these engines and determined that the cost impacts would be unreasonable given the expected emission impacts both with and without the expectation of use of emission control technologies. For example, for 4SRB engines, the annual cost per ton of HAP reduced, assuming the engine will have to install emission controls to meet the emission limit, is estimated to be $762,000 for a 50 HP engine and $167,000 for a 250 HP engine. For 2SLB and 4SLB engines at 250 HP, the annual cost per ton of HAP reduced is estimated to be $224,000 and $55,000, respectively, assuming the engines will have to install emission controls to meet the emission limit. Engine owners/operators have indicated that most of these smaller area source engines are not equipped with the control technologies required to meet these limits. Based on this information, EPA determined that management practices for these stationary SI RICE located at area sources of HAP are generally available and cost effective and is promulgating management practices for these engines in the final rule. Additional information regarding this determination can be found in the memorandum titled, "MACT Floor and MACT Determination for Existing Stationary Non-Emergency SI RICE <100 HP and Existing Stationary Emergency SI RICE Located at Major Sources and GACT for Existing Stationary SI RICE Located at Area Sources," which is available from the rulemaking docket.

C. Management Practices

Comment: Several commenters did not agree with the specific management practices that EPA proposed in the rule for area sources and recommended different maintenance practices. According to the commenters, the maintenance frequency in the proposed rule exceeds current practices or is not supported in the proposed rule. Several commenters agreed that management practices are appropriate for the proper operation of the engines and are a reasonable means to reduce HAP emissions, however, the commenters did not agree with the specific maintenance practices proposed by EPA. Numerous commenters recommended that EPA allow owners/operators to follow engine manufacturers' recommended practices or the owners/operators own site-specific maintenance plan.

One commenter pointed out that operators have a direct interest in maintaining engine oil, hoses, and belts, so the engine runs reliably, but the appropriate frequency for these maintenance practices are specific to engine design and are not "one size fits all." Commenters recommended that EPA revise fixed maintenance (one-size-fits-all) requirements to maintenance plans. The commenters stated that, while fixed maintenance intervals work well for new mass produced engines similar to those in automobiles, they are inappropriate for the wide variety of existing engines used in the oil and gas, agriculture, and power generation industries across the nation. The commenters pointed out that EPA allows the use of operator-defined maintenance plans that are "consistent with good air pollution control practice for minimizing emissions" to be used in other portions of this same rule, and asserted that EPA should allow the use of operator-defined maintenance plans to greatly reduce cost and allow operators to optimize maintenance for each type of engine.

Commenters said that if EPA keeps the management practices as proposed, the frequencies associated with conducting engine maintenance should be revised to be commensurate with today's practices. The commenters believed the maintenance practices, as proposed, are significantly burdensome and lack basis. According to the commenters, EPA should replace the maintenance hour intervals with company recommended performance-based maintenance practices to be documented in an operator-defined maintenance plan consistent with requirements in 40 CFR part 60, subpart JJJJ.

One commenter stated that most of the engine manufacturers for the engines in the oil and gas industry recommend oil changes on a monthly schedule. The commenter also indicated that it is common practice to periodically sample and test the engine oil to see if the oil properties are sufficient to extend this time period between oil changes. According to the commenter, this testing has shown in many cases that the oil change interval can be extended without any detrimental effects on the engine, which allows industry to maximize efficiencies, minimize oil usage, reduce waste, and streamline operations with no negative impacts to the engine or emissions.

One commenter expressed that inspection of hoses and belts has no impact on HAP emissions. The commenter expressed that, generally, it agreed that performing maintenance on engines will help to reduce HAP emissions, but that while inspecting belts and hoses is an important part of general engine maintenance (and most sources likely conduct regular inspections of their engines), such inspections have no effect on emissions and should not be included in the final rule.

Response: EPA proposed to require specific management practices for certain engines, primarily for smaller existing stationary engines at area sources where EPA determined that add-on controls were not GACT. EPA indicated at proposal that the management practices specified in the proposal reflected GACT and that such practices would provide a reasonable level of control, while at the same time ensuring that the burden on particularly small businesses and individual owners and operators would be minimized. EPA asked for comment on the proposed management practices and received comments on the proposal from industry.

EPA agrees with the commenters that it is difficult to adopt a set of management practices that are appropriate for all types of stationary engines. Regardless, EPA must promulgate emission standards pursuant to section 112(d)(5) of the CAA for all engines at area sources covered by this final rule. EPA still believes that management practices reflect GACT for emergency engines, engines less than or equal to 500 HP, 2SLB engines, and landfill/digester gas engines at area sources. These management practices represent what is generally available among such engines to reduce HAP, and

the practices will ensure that emissions are minimized and engines are properly operated. EPA does not agree with the commenters that it would be appropriate to simply specify that owners and operators follow the manufacturer's recommended maintenance practices for the engine. EPA cannot delegate to manufacturers the final decision regarding the proper management practices required by section 112(d) of the CAA. To address the comments that there may be special and unique operating situations where the management practices in this final rule may not be appropriate, for example engines using a synthetic lubricant, EPA notes that owners/operators may work with State permitting authorities pursuant to 40 CFR subpart E ("Approval of State Programs and Delegation of Federal Authorities") for approval of alternative management practices for their engines. 40 CFR subpart E implements section 112(l) of the CAA, which authorizes EPA to approve alternative State/local/tribal HAP standards or programs when such requirements are demonstrated to be no less stringent than EPA promulgated standards.

The management practices EPA proposed for stationary SI engines greater than 50 HP included changing the oil and filter every 500 hours, replacing the spark plugs every 1,000 hours, and inspecting all hoses and belts every 500 hours and replacing as necessary. For engines less than 50 HP, EPA proposed to require that these engines change the oil and filter every 200 hours, replace spark plugs every 500 hours, and inspect all hoses and belts every 500 hours and replace as necessary.

EPA agrees that there is a wide range of recommended maintenance procedures, but EPA must promulgate specific requirements pursuant to section 112(d) of the CAA for this source category. Based on the different suggested maintenance recommendations EPA has reviewed, maintenance requirements appear to vary depending on whether the engine is used for standby, intermittent, or continuous operation. Maintenance is also dependent on the engine application, design, and model.

Taking into consideration the information received from commenters on the proposed maintenance practices for oil and filter changes and carefully reviewing engine manufacturer recommended maintenance procedures, EPA has determined that for stationary non-emergency 4SLB and 4SRB SI RICE at or below 500 HP and stationary non-emergency landfill/digester gas SI RICE, GACT will require the management practices to be performed every 1,440 hours of engine operation or annually, whichever comes first, which, as indicated in the comments, reflects the management practices that are generally available. For stationary non-emergency 2SLB SI RICE, GACT will require the management practices to be performed every 4,320 hours of engine operation or annually, whichever comes first. Two stroke lean burn engines have a longer maintenance interval than 4-stroke engines because they do not have combustion blow-by gases entering the crankcase due to the engine configuration and therefore do not have as much oil contamination from the combustion blow-by gases. The 2SLB engines also operate at lower speeds and temperatures than 4-stroke engines; consequently the spark plug does not fire as frequently and fires at lower temperatures than 4-stroke engines. For these reasons, EPA agrees that 2SLB engines should have longer maintenance practice intervals than 4-stroke engines. EPA also determined that it would be appropriate to include the option to use an oil analysis program in this final rule.

EPA does not agree with the comments that EPA's proposed requirement to inspect belts and hoses has no impact on emissions. Ensuring that the engine is properly operated and maintained will help minimize the HAP emissions from the engine. Properly maintained belts and hoses allow the engine to operate at maximum efficiency. Hoses are generally used to move coolant through the engine to prevent the engine from overheating. Overheating of the engine can cause a malfunction in the combustion process, and may also burn the engine oil in the combustion chamber. Both of these conditions may increase pollutant emissions from the engine. Belts are commonly used for electrical generation and engine timing, and if worn or broken can cause damage to the engine and increase emissions. Therefore, EPA has required management practices that reflect GACT and that, in EPA's view, will ensure the proper operation and maintenance of the engine.

D. Method 323

Comment: Many commenters thought that EPA should reconsider whether EPA Method 323 could be included in this final rule or if there is another viable alternative to EPA Method 320. EPA Method 323 was published in the **Federal Register** on January 14, 2003, as a proposed test method to measuring formaldehyde from natural gas stationary combustion sources, but the method was never finalized. However, the commenters said that the method has been used on a consistent basis to measure formaldehyde from gas engines for compliance and other purposes. EPA Region 8 has test results that indicate potential issues related to the reliability of EPA Method 323 and the method was therefore not included in the proposed rule. The commenters said that they believe that testing errors may have been a factor in the anomalous results from EPA Region 8. The commenters have reviewed some of the test reports in question and noted potential calculation or testing errors. The Fourier Transform Infrared method, which is the single formaldehyde test method in the proposal, compared to Method 323 is more complex and often more expensive, according to the commenters. In addition, several commenters have concerns about whether there will be a sufficient amount of available testing companies to meet the performance testing demands of this final rule. For these reasons, several of the commenters said that EPA should look back at Method 323 as a viable method and at the same time consider other alternatives for measuring formaldehyde.

Response: EPA Method 323 was first proposed as part of the NESHAP for Stationary Combustion Turbines published January 14, 2003, (68 FR 1888) for measuring formaldehyde emissions from natural gas-fired sources. However, the method was not included in the final Stationary Combustion Turbine NESHAP due to reliability concerns and EPA never promulgated EPA Method 323 as a final standard in 40 CFR part 63, appendix A. Despite this, many sources chose to use the method for compliance testing and as EPA reviewed the results from the method two issues emerged. A few testers seemed to produce results with the method that were consistently biased low, and occasionally testers were unable to meet the performance requirement for collecting duplicate samples whose results agreed within ± 20 percent. Because EPA was unable to resolve these technical issues with the method, EPA found it appropriate to propose to remove the method from 40 CFR part 63, subpart ZZZZ.

After EPA proposed to remove Method 323 as a compliance test method, the Agency received test data comparing Method 323 to EPA Method 320. These comparison tests were run on five different engines with samples collected concurrently from co-located sampling systems. The results from the two methods showed good agreement and there was no evidence of bias in the

results from Method 323. Also, during the comparison testing, there were no problems meeting the quality assurance requirement in Method 323 for agreement between duplicate samples. A careful review of the earlier data where some testers using Method 323 were consistently producing biased results showed that these testers did not always perform the method correctly. Based on the results of the comparison testing, EPA believes that when competent testers perform Method 323 according to all of its requirements, the method will produce accurate and consistent results and it is appropriate to allow sources the option to use Method 323 to demonstrate compliance with the formaldehyde emission limits in 40 CFR part 63 subpart ZZZZ. Therefore, we are adding Method 323 to Appendix A of Part 63 as part of this action.

E. Other

Comment: One commenter indicated that they had provided significant comments in February 2009 on EPA's Continuous Parameter Monitoring Systems proposal (73 FR 59956, October 9, 2008) and believes that extensive revisions are needed of Performance Specifications 17 and 4. The commenter asked that EPA review these procedures to determine their appropriateness for even larger engines and suggested that EPA remove the reference to 40 CFR 63.8(a)(2) from Table 8 of the proposed rule, *i.e.*, change "Yes" to "No" for this paragraph.

Response: EPA does not agree with the commenter that the reference to 40 CFR 63.8(a)(2) in Table 8 of the rule should be "no". The commenter did not provide any information to support the claim that the Performance Specifications and 40 CFR 63.8(a)(2) are not appropriate for stationary engines. In response to this comment, EPA reviewed the proposed Performance Specifications and determined that they are appropriate for stationary engines, including stationary SI engines. In order to clearly indicate the requirements from the Performance Specifications that should be followed for the stationary engines subject to this rulemaking, EPA has included the Performance Specification requirements in 40 CFR part 63 subpart ZZZZ.

VI. Summary of Environmental, Energy and Economic Impacts

A. What are the air quality impacts?

This final rule is expected to reduce total HAP emissions from stationary RICE by 6,000 tpy beginning in the year 2013, which is the first year this final rule will be implemented. EPA estimates that approximately 330,000 stationary SI engines will be subject to this final rule. These estimates include stationary engines located at major and area sources; however, not all stationary engines are subject to numerical emission standards. Further information regarding the estimated reductions of this final rule can be found in the memorandum titled, "Impacts Associated with NESHAP for Existing Stationary SI RICE," which is available in the docket.

In addition to HAP emissions reductions, this final rule will reduce other pollutants such as CO, NO_X, and VOC. This final rule is expected to reduce emissions of CO by 109,000 tpy in the year 2013. Reductions of NO_X are estimated at 96,000 tpy in the year 2013. Emissions of VOC are estimated to be reduced by 31,000 tpy in the year 2013.

B. What are the cost impacts?

The total national capital cost for this final rule for existing stationary RICE is estimated to be $383 million, with a total national annual cost of $253 million in year 2013 (the first year this final rule is implemented). Further information regarding the estimated cost impacts of this final rule can be found in the memorandum titled, "Impacts Associated with NESHAP for Existing Stationary SI RICE," which is available in the docket.

C. What are the benefits?

We estimate the monetized co-benefits of the final SI RICE NESHAP for major and area sources to be $510 million to $1.2 billion (2009$, 3 percent discount rate) in the implementation year (2013). The monetized co-benefits of the regulatory action at a 7 percent discount rate are $460 million to $1.1 billion (2009$). Using alternate relationships between $PM_{2.5}$ and premature mortality supplied by experts, higher and lower co-benefits estimates are plausible, but most of the expert-based estimates fall between these two estimates.[1] A summary of the monetized co-benefits estimates at discount rates of 3 percent and 7 percent is presented in Table 3 of this preamble.

TABLE 3—SUMMARY OF THE MONETIZED CO-BENEFITS ESTIMATES FOR THE FINAL RICE SI NESHAP IN 2013

[Millions of 2009$] [1]

$PM_{2.5}$ precursors	Estimated emission reductions (tons per year)	Total monetized co-benefits (3% discount rate)	Total monetized co-benefits (7% discount rate)
Major Sources:			
VOC	6,730	$8.2 to $20	$7.4 to $18.
Area Sources:			
VOC	24,177	$29 to $72	$27 to $65.
NO_X	96,479	$470 to $1,100	$420 to $1,000.
Total for Area Sources		$500 to $1,200	$450 to $1,100.
Combined Total for Major and Area Sources		$510 to $1,200	$460 to $1,100.

[1] All estimates are for the implementation year (2013), and are rounded to two significant figures so numbers may not sum across rows. All fine particles are assumed to have equivalent health effects, but the benefit-per-ton estimates vary between precursors because each ton of precursor reduced has a different propensity to form $PM_{2.5}$. Benefits from reducing CO and HAP are not included. All of the benefits for area sources are attributable to reductions expected from 4SLB and 4SRB non-emergency engines above 500 HP.

[1] Roman *et al.*, 2008. Expert Judgment Assessment of the Mortality Impact of Changes in Ambient Fine Particulate Matter in the U.S. Environ. Sci. Technol., 42, 7, 2268–2274.

These co-benefits estimates represent the total monetized human health benefits for populations exposed to less $PM_{2.5}$ in 2013 from controls installed to reduce air pollutants in order to meet these multiple standards. These co-estimates are calculated as the sum of the monetized value of avoided premature mortality and morbidity associated with reducing a ton of $PM_{2.5}$ precursor emissions. To estimate the human health benefits derived from reducing $PM_{2.5}$ precursor emissions, we utilized the general approach and methodology laid out in Fann, Fulcher, and Hubbell (2009).[2]

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

For context, it is important to note that the magnitude of the PM co-benefits is largely driven by the concentration response function for premature mortality. Experts have advised EPA to consider a variety of assumptions, including estimates based both on empirical (epidemiological) studies and judgments elicited from scientific experts, to characterize the uncertainty in the relationship between $PM_{2.5}$ concentrations and premature mortality. For this rulemaking we cite two key empirical studies, one based on the American Cancer Society cohort study[3] and the extended Six Cities cohort study.[4] In the RIA for this rulemaking, which is available in the docket, we also include co-benefits estimates derived from expert judgments and other assumptions.

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

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

This analysis does not include the type of detailed uncertainty assessment found in the 2006 $PM_{2.5}$ National Ambient Air Quality Standard (NAAQS) RIA because we lack the necessary air quality input and monitoring data to run the benefits model. However, the 2006 $PM_{2.5}$ NAAQS benefits analysis[5] provides an indication of the sensitivity of our results to various assumptions.

It should be emphasized that the monetized co-benefits estimates provided above do not include benefits from several important benefit categories, including reducing other air pollutants, ecosystem effects, and visibility impairment. The benefits from reducing CO and HAP have not been monetized in this analysis, including reducing 109,000 tons of CO and 6,000 tons of HAP each year. Although we do not have sufficient information or modeling available to provide monetized estimates for this rulemaking, we include a qualitative assessment of these other effects in the RIA for this rulemaking, which is available in the docket.

The combined social costs of this rulemaking are estimated to be $253 million (2009$) in the implementation year. The combined monetized co-benefits are $510 million to $1.2 billion (2009$, 3 percent discount rate) and $460 million to $1.1 billion (2009$, 7 percent discount rate) for 2013. Thus, net benefits of this rulemaking are estimated at $250 million to $980 million (2009$, 3 percent discount rate) and $210 million to $860 million (2009$, 7 percent discount rate). EPA believes that the benefits of the rulemaking are likely to exceed the costs even when taking into account the uncertainties in the cost and benefit estimates.

D. What are the economic impacts?

The economic impact analysis (EIA) that is included in the RIA indicates that prices of affected output from the affected industries will increase as a result of the rule, but the changes will be small. The largest impacts are on the electric power generating industry because it bears more costs from the rule than any other affected industry (slightly more than 50 percent of the total annualized costs). For all affected industries, annualized compliance costs are 0.5 percent or less, on average, of sales for firms.

Based on the estimated compliance costs associated with this rule and the predicted changes in prices and output in affected markets, the estimated social costs are $253 million (2009$), which is the same as the estimated compliance costs.

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

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

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

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

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

E. What are the non-air health, environmental and energy impacts?

EPA does not anticipate any significant non-air health, environmental or energy impacts as a result of this final rule.

VII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

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

When estimating the $PM_{2.5}$-related human health benefits and compliance costs in Table 4 below, EPA applied methods and assumptions consistent with the state-of-the-science for human health impact assessment, economics and air quality analysis. EPA applied its best professional judgment in performing this analysis and believes that these estimates provide a reasonable indication of the expected benefits and costs to the nation of this rulemaking. The RIA available in the docket describes in detail the empirical basis for EPA's assumptions and characterizes the various sources of uncertainties affecting the estimates below.

When characterizing uncertainty in the PM-mortality relationship, EPA has historically presented a sensitivity analysis applying alternate assumed thresholds in the PM concentration-response relationship. In its synthesis of the current state of the PM science, EPA's 2009 Integrated Science Assessment for Particulate Matter concluded that a no-threshold log-linear model most adequately portrays the PM-mortality concentration-response relationship. In the RIA accompanying this rulemaking, rather than segmenting out impacts predicted to be associated levels above and below a "bright line" threshold, EPA includes a "LML" that illustrates the increasing uncertainty that characterizes exposure attributed to levels of $PM_{2.5}$ below the LML for each study. Figures provided in the RIA show the distribution of baseline exposure to $PM_{2.5}$, as well as the lowest air quality levels measured in each of the epidemiology cohort studies. This information provides a context for considering the likely portion of PM-related mortality benefits occurring above or below the LML of each study; in general, our confidence in the size of the estimated reduction $PM_{2.5}$-related premature mortality diminishes as baseline concentrations of $PM_{2.5}$ are lowered. Using the Pope *et al.* (2002) study, the 85 percent of the population is exposed to annual mean $PM_{2.5}$ levels at or above the LML of 7.5 $\mu g/m^3$. Using the Laden *et al.* (2006) study, 40 percent of the population is exposed above the LML of 10 $\mu g/m^3$. While the LML analysis provides some insight into the level of uncertainty in the estimated PM mortality benefits, EPA does not view the LML as a threshold and continues to quantify PM-related mortality impacts using a full range of modeled air quality concentrations.

A summary of the monetized benefits, social costs, and net benefits for the option, as well as a less stringent option, at discount rates of 3 percent and 7 percent is in Table 4 of this preamble.

TABLE 4—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE FINAL SI RICE NESHAP IN 2013

[Millions of 2009$] [1]

	3% Discount rate			7% Discount rate		
Final NESHAP: Major						
Total Monetized Benefits [2]	$8.2	to	$20	$7.4	to	$18
Total Social Costs [3]	$88			$88		
Net Benefits	−$80	to	−$68	−$81	to	−$70
Non-monetized Benefits	12,500 tons of CO 1,300 tons of HAP Ecosystem effects Visibility impairment					
Alternative 2: Major						
Total Monetized Benefits [2]	$48	to	$120	$43	to	$110
Total Social Costs [3]	$95			$95		
Net Benefits	−$47	to	$22	−$52	to	$11
Non-monetized Benefits	17,800 tons of CO 1,400 tons of HAP Health effects from NO_2 and ozone exposure Ecosystem effects Visibility impairment					
Final NESHAP: Area [4]						
Total Monetized Benefits [2]	$500	to	$1,200	$450	to	$1,100
Total Social Costs [3]	$166			$166		

TABLE 4—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE FINAL SI RICE NESHAP IN 2013—Continued

[Millions of 2009$] [1]

	3% Discount rate			7% Discount rate		
Net Benefits	$330	to	$1,100	$290	to	$930
Non-monetized Benefits	97,000 tons of CO 4,700 tons of HAP Health effects from NO_2 and ozone exposure Ecosystem effects Visibility impairment					
Final Major and Area Source NESHAP						
Total Monetized Benefits [2]	$510	to	$1,200	$460	to	$1,100
Total Social Costs [3]	$253			$253		
Net Benefits	$250	to	$980	$210	to	$860
Non-monetized Benefits	109,000 tons of CO 6,000 tons of HAP Health effects from NO_2 and ozone exposure Ecosystem effects Visibility impairment					

[1] All estimates are for the implementation year (2013), and are rounded to two significant figures.
[2] The total monetized benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of $PM_{2.5}$ precursors such as NO_X and VOC. It is important to note that the monetized benefits include many but not all health effects associated with $PM_{2.5}$ exposure. Benefits are shown as a range from Pope *et al.* (2002) to Laden *et al.* (2006). These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type.
[3] The annual compliance costs serve as a proxy for the annual social costs of this rulemaking given the lack of difference between the two.
[4] All of the benefits for area sources are attributable to reductions expected from 4SLB and 4SRB non-emergency engines above 500 HP.

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

B. Paperwork Reduction Act

The information collection requirements in this final rule have been submitted for approval to 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 collection activities in this final rule include performance testing for non-emergency stationary SI RICE from 100 to 500 HP located at major sources of HAP and for non-emergency 4SLB and 4SRB stationary SI RICE larger than 500 HP located at area sources of HAP. The information collection activities also include one-time notifications and periodic reports, recording information, monitoring and the maintenance of records. The information generated by these activities will be used by EPA to ensure that affected facilities comply with the emission limits and other requirements. Records and reports are necessary to enable EPA or States to identify affected facilities that may not be in compliance with the requirements. Based on reported information, EPA will decide which units and what records or processes should be inspected. These amendments do 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. These recordkeeping and reporting requirements are specifically authorized by CAA section 114 (42 U.S.C. 7414). All information submitted to EPA for which a claim of confidentiality is made will be safeguarded according to EPA policies in 40 CFR part 2, subpart B, Confidentiality of Business Information.

The annual monitoring, reporting, and recordkeeping burden for this collection (averaged over the first 3 years after sources must comply) is estimated to be 967,246 labor hours per year at a total annual cost of $86 million. This estimate includes notifications of compliance and performance tests, engine performance testing, semiannual compliance reports, continuous monitoring, and recordkeeping. The total capital costs associated with the requirements over the 3-year period of the information collection request (ICR) is estimated to be $13.8 million per year. There are no additional operation and maintenance costs for the requirements over the 3-year period of the ICR. Burden is defined at 5 CFR 1320.3(b).

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

C. Regulatory Flexibility Act

The Regulatory Flexibility Act 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 this final rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental

jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; 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. The companies owning facilities with affected RICE can be grouped into small and large categories using SBA general size standard definitions. Size standards are based on industry classification codes (*i.e.*, North American Industrial Classification System, or NAICS) that each company uses to identify the industry or industries in which they operate in. The SBA defines a small business in terms of the maximum employment, annual sales, or annual energy-generating capacity (for electricity generating units) of the owning entity. These thresholds vary by industry and are evaluated based on the primary industry classification of the affected companies. In cases where companies are classified by multiple NAICS codes, the most conservative SBA definition (*i.e.*, the NAICS code with the highest employee or revenue size standard) was used.

As mentioned earlier in this preamble, facilities across several industries use affected SI RICE; therefore, a number of size standards are utilized in this analysis. For the 15 industries identified at the 6-digit NAICS codes represented in this analysis, the employment size standard (where it applies) varies from 500 to 1,000 employees. The annual sales standard (where it applies) is as low as $0.75 million and as high as $33.5 million. In addition, for the electric power generation industry, the small business size standard is an ultimate parent entity defined as having a total electric output of 4 million megawatt-hours in the previous fiscal year. The specific SBA size standard is identified for each affected industry within the industry profile to support this economic analysis.

After considering the economic impacts of this final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities (SISNOSE). This certification is based on the economic impact of this final action to all affected small entities across all industries affected. We estimate that all small entities will have annualized costs of less than 1 percent of their sales in all industries except NAICS 2211 (electric power generation, transmission, and distribution) and NAICS 111 (Crop and Animal Production). The number of small entities in NAICS 2211 having annualized costs of greater than 1 percent of their sales is less than 5 percent, and the number of small entities in NAICS 111 and 112 having annualized costs of greater than 1 percent of their sales (but less than 2 percent of sales) is 30 percent. We conclude that there is no SISNOSE for this final rule.

For more information on the small entity impacts associated with this final rule, please refer to the Economic Impact and Small Business Analyses in the public docket. These analyses can be found in the RIA for this final rule.

Although this final rule would not have a significant economic impact on a substantial number of small entities, EPA nonetheless tried to reduce the impact of this final rule on small entities. When developing the standards, EPA took special steps to ensure that the burdens imposed on small entities were minimal. EPA conducted several meetings with industry trade associations to discuss regulatory options and the corresponding burden on industry, such as recordkeeping and reporting. In this final rule, we are applying the minimum level of control (*i.e.*, the MACT floor) to engines located at major HAP sources and the minimum level of testing, monitoring, recordkeeping, and reporting to affected RICE sources, both major and area, allowed by the CAA. Other alternatives considered that provided more than the minimum level of control were deemed as not technically feasible or cost-effective for EPA to implement as explained earlier in the preamble.

D. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531–1538, requires Federal agencies, unless otherwise prohibited by law, to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. This 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, EPA has prepared under section 202 of the UMRA a written statement which is summarized below.

As discussed previously in this preamble, the statutory authority for this final rule is section 112 of the CAA. Section 112(b) lists the 189 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 based on MACT, which require existing and new major sources to control emissions of HAP. EPA is required to address HAP emissions from stationary RICE located at area sources under section 112(k) of the CAA, based on criteria set forth by EPA in the Urban Air Toxics Strategy previously discussed in this preamble.

In compliance with section 205(a), we identified and considered a reasonable number of regulatory alternatives. EPA carefully examined the regulatory alternatives, and selected the lowest cost/least burdensome alternative that EPA deems adequate to achieve the statutory requirements of CAA section 112 and effectively reduce emissions of HAP.

1. Social Costs and Benefits

The RIA prepared for this final rule, including the Agency's assessment of costs and benefits, is detailed in the "Regulatory Impact Analysis for the Final SI RICE NESHAP" in the docket. Based on estimated compliance costs on all sources associated with this final rule and the predicted change in prices and production in the affected industries assuming passthrough of costs to affected consumers, the estimated social costs of this final rule are $253 million (2009$). It is estimated that by 2013, HAP will be reduced by 6,000 tpy due to reductions in formaldehyde, acetaldehyde, acrolein, methanol and benzene from existing stationary SI RICE. Formaldehyde and acetaldehyde have been classified as "probable human carcinogens." Acrolein and methanol are not considered carcinogenic, but produce several other toxic effects. Benzene is classified as a known carcinogen (Group A). This final rule is expected to reduce emissions of CO by about 109,000 tpy in the year 2013. Reductions of NO_X are estimated at 96,000 tpy in the year 2013. Emissions of VOC are estimated to be reduced by 31,000 tpy in the year 2013. Exposure to CO can affect the cardiovascular system and the central nervous system.

The total monetized benefits of this final rule in 2013 range from $510 million to $1.2 billion (2009$, 3% discount rate).

2. Future and Disproportionate Costs

The UMRA requires that we estimate, where accurate estimation is reasonably feasible, future compliance costs imposed by this final rule and any disproportionate budgetary effects. Our estimates of the future compliance costs of this final rule are discussed previously in this preamble. We do not believe that there will be any

disproportionate budgetary effects of this final rule on any particular areas of the country, State or local governments, types of communities (*e.g.*, urban, rural), or particular industry segments.

3. Effects on the National Economy

The UMRA requires that we estimate the effect of this 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 this final rule is presented in the "Regulatory Impact Analysis for the SI RICE NESHAP" in the docket. This analysis provides estimates of the effect of this final rule on most of the categories mentioned above. The results of the economic impact analysis were summarized previously in this preamble. In addition, we have determined that this final rule contains no regulatory requirements that might significantly or uniquely affect small governments. Therefore, this rule is not subject to the requirements of section 203 of the UMRA.

E. Executive Order 13132: Federalism

This 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. This final rule primarily affects private industry, and does not impose significant economic costs on State or local governments. Thus, Executive Order 13132 does not apply to this final rule.

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

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this final rule.

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

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

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

This final rule is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse impact on the supply, distribution, or use of energy. EPA has prepared an analysis of energy impacts that explains this conclusion as follows below.

With respect to energy supply and prices, our analysis suggests that at the industry level, the annualized costs represent a very small fraction of revenue (generally less than 0.5 percent). As a result, we can conclude supply and price impacts on affected energy producers and consumers should be small.

To enhance understanding regarding the regulation's influence on energy consumption, we examined publicly available data describing energy consumption for the electric power sector. The electric power sector is expected to incur about half of the $253 million in compliance costs associated with this final rule, and is the industry expected to incur the greatest share of the costs relative to other affected industries. The Annual Energy Outlook 2010 (EIA, 2009) provides energy consumption data. Since this final rule primarily affects natural gas and gasoline-fired RICE, our analysis focuses on impacts of consumption of these fuels. As shown in Table 5 of this preamble, the electric power sector accounts for less than 5.1 percent of U.S. natural gas consumption. As a result, any energy consumption changes attributable to this final rule should not significantly influence the supply, distribution, or use of energy nationwide.

TABLE 5—U.S. ELECTRIC POWER[a] SECTOR ENERGY CONSUMPTION

[(Quadrillion BTUs): 2013]

	Quantity	Share of total energy use (percent)
Distillate fuel oil	0.12	0.1
Residual fuel oil	0.34	0.3
Liquid fuels subtotal	0.45	0.5
Natural gas	5.17	5.1
Steam coal	20.69	20.6
Nuclear power	8.59	8.5
Renewable energy[b]	6.06	6.0
Electricity Imports	0.09	0.1
Total Electric Power Energy Consumption[c]	41.18	40.9
Delivered Energy Use	72.41	72.0
Total Energy Use	100.59	100.0

[a] Includes consumption of energy by electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.

[b] Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.

[c] Includes non-biogenic municipal waste not included above.

Source: U.S. Energy Information Administration. 2009. Supplemental Tables to the Annual Energy Outlook 2010.

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

EPA cites technical standard EPA Method 323 of 40 CFR part 63, appendix A, in this final rule. Consistent with the NTTAA, EPA conducted searches to identify VCS in addition to this EPA method. No applicable VCS were identified for EPA Method 323. The search and review results have been documented and are placed in the docket for this final rule.

Under § 63.7(f) and § 63.8(f) of subpart A 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 required or referenced testing methods, performance specifications, or procedures.

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

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

EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. This rule is a nationwide standard that reduces air toxics emissions from existing stationary SI engines, thus decreasing the amount of such emissions to which all affected populations are exposed.

K. 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. EPA will submit a report containing this final 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 this 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. 804(2). This final rule will be effective on October 19, 2010.

List of Subjects in 40 CFR Part 63

Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: August 10, 2010.

Lisa P. Jackson,

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 ZZZZ—[Amended]

■ 2. Section 63.6590 is amended by revising paragraphs (b)(2), (b)(3), and (c) to read as follows:

§ 63.6590 What parts of my plant does this subpart cover?

* * * * *

(b) * * *

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of § 63.6645(f) and the requirements of §§ 63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;

(vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or

(viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less

than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

■ 3. Section 63.6595 is amended by revising paragraph (a)(1) to read as follows:

§ 63.6595 When do I have to comply with this subpart?

(a) * * *

(1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.

* * * * *

■ 4. Section 63.6601 is amended by revising the section heading to read as follows:

§ 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

* * * * *

■ 5. Section 63.6602 is revised to read as follows:

§ 63.6602 What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

■ 6. Section 63.6603 is amended by revising the section heading and paragraph (a) to read as follows:

§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

* * * * *

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

* * * * *

■ 7. Section 63.6604 is revised to read as follows:

§ 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

■ 8. Section 63.6611 is amended by revising the section heading to read as follows:

§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

* * * * *

■ 9. Section 63.6612 is amended by revising the introductory text to read as follows:

§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

* * * * *

■ 10. Section 63.6625 is amended by:
■ a. Revising paragraph (b);
■ b. Revising paragraph (e);
■ c. Revising paragraph (g) introductory text;
■ d. Revising paragraph (h);
■ e. Revising paragraph (i); and
■ f. Adding paragraphs (j) and (k) to read as follows:

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

* * * * *

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (8) of this section.

(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 15-minute 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 (b)(3) of this section.

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

(6) You must develop a site-specific monitoring plan that addresses paragraphs (b)(6)(i) through (vi) of this section.

(i) Installation of the CPMS sampling probe or other interface at the appropriate location to obtain representative measurements;

(ii) Performance and equipment specifications for the sample interface, parametric signal analyzer, and the data collection and reduction systems;

(iii) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations);

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1), (c)(3), and (c)(4)(ii);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1), and (e)(2)(i).

(7) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(8) You must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan.

* * * * *

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

* * * * *

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.

* * * * *

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table

2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(k) If you have an operating limitation that requires the use of a temperature measurement device, you must meet the requirements in paragraphs (k)(1) through (4) of this section.

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

(2) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range.

(3) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range.

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

■ 11. Section 63.6640 is amended by revising paragraph (f) to read as follows:

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

* * * * *

(f) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

■ 12. Section 63.6645 is amended by revising paragraphs (a)(1), (a)(2), and (a)(5) to read as follows:

§ 63.6645 What notifications must I submit and when?

(a) * * *

(1) An existing stationary RICE with a site rating of less than or equal to 500

brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

* * * * *

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

* * * * *

■ 13. Section 63.6655 is amended by revising paragraphs (e)(1) through (e)(3) and (f)(1) and (f)(2) to read as follows:

§ 63.6655 What records must I keep?

* * * * *

(e) * * *

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) * * *

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

■ 14. Section 63.6675 is amended by:

■ a. Adding in alphabetical order the definition of *Commercial emergency stationary RICE;*

■ b. Revising the definition of *Emergency stationary RICE;*

■ c. Adding in alphabetical order the definition of *Institutional emergency stationary RICE;*

■ d. Adding in alphabetical order the definition of *Residential emergency stationary RICE;* and

■ e. Removing the definition of *Residential/commercial/institutional emergency stationary RICE* to read as follows:

§ 63.6675 What definitions apply to this subpart?

* * * * *

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

* * * * *

Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under § 63.6640(f). All emergency stationary RICE must comply with the requirements specified in § 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in § 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

* * * * *

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

* * * * *

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

* * * * *

■ 15. Table 1a to Subpart ZZZZ of Part 63 heading and introductory text is revised to read as follows:

Table 1a to Subpart ZZZZ of Part 63. Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE > 500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

* * * * *

■ 16. Table 1b to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 1b to Subpart ZZZZ of Part 63. Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE > 500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE > 500 HP Located at an Area Source of HAP Emissions

As stated in §§ 63.6600, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE > 500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE > 500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O_2 and using NSCR.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus; 10 percent from the pressure drop across the catalyst measured during the initial performance test and b. maintain the termperature of your stationary RICE exhaust so the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.

For each . . .	You must meet the following operating limitation . . .
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O_2 and using NSCR.	Comply with any operating limitations approved by the Administrator.

■ 17. Table 2b to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 2b to Subpart ZZZZ of Part 63. Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE > 500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥ 250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE > 500 HP, and Existing 4SLB Stationary RICE > 500 HP Located at an Area Source of HAP Emissions

As stated in §§ 63.6600, 63.6601, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥ 250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE > 500 HP; and existing 4SLB stationary RICE > 500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	Comply with any operating limitations approved by the Administrator.

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

■ 18. Table 2c to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 2c to Subpart ZZZZ of Part 63. Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤ 500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤ 500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
2. Non-Emergency, non-black start stationary CI RICE <100 HP.	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP.	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2.	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500.	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP.	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE.	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP.	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500.	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2.	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500.	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2.	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500.	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2.	
12. Non-emergency, non-black start landfill or digester gas-fired stationary RICE 100≤HP≤500.	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2.	

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

■ 19. Table 2d to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 2d to Subpart ZZZZ of Part 63. Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§ 63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP.	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; [1]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500.	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP.	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; [1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; [1]	
	b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE.	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; [1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP.	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; [1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB stationary RICE >500 HP.	a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 93 percent or more.	
9. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP.	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; [1]	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
10. Non-emergency, non-black start 4SRB stationary RICE >500 HP.	a. Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15 percent O_2; or b. Reduce formaldehyde emissions by 76 percent or more.	
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE.	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; [1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

■ 20. Table 3 to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 3 to Subpart ZZZZ of Part 63. Subsequent Performance Tests

As stated in §§ 63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE with a brake horsepower >500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower ≥250 located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower >500 located at major sources.	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semi-annually.[1]
2. 4SRB stationary RICE with a brake horsepower ≥5,000 located at major sources.	Reduce formaldehyde emissions	Conduct subsequent performance tests semi-annually.[1]
3. Stationary RICE with a brake horsepower >500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower 250≤HP≤500 located at major sources.	Limit the concentration of formaldehyde in the stationary RICE exhaust.	Conduct subsequent performance tests semi-annually.[1]
4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE.	Limit or reduce CO or formaldehyde emissions.	Conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first.

For each . . .	Complying with the requirement to . . .	You must . . .
5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year and are limited use stationary RICE.	Limit or reduce CO or formaldehyde emissions.	Conduct subsequent performance tests every 8,760 hrs. or 5 years, whichever comes first.

[1] After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

■ 21. Table 4 to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§ 63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE.	a. Reduce CO emissions ..	i. Measure the O_2 at the inlet and outlet of the control device; and	(1) Portable CO and O_2 analyzer.	(a) Using ASTM D6522–00 (2005) [a] (incorporated by reference, see §63.14). Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device.	(1) Portable CO and O_2 analyzer.	(a) Using ASTM D6522–00 (2005) [a] [b] (incorporated by reference, see §63.14) or Method 10 of 40 CFR appendix A. The CO concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE ..	a. Reduce formaldehyde emissions.	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i).	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00m (2005).	(a) Measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03.	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device.	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03,[c] provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130.	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust.	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i).	(a) If using a control device, the sampling site must be located at the outlet of the control device.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		ii. Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005).	(a) Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03.	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03,[c] provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130.	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. Measure CO at the exhaust of the stationary RICE.	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522–00 (2005),[a] Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03.	(a) CO Concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour longer runs.

[a] You may also use Methods 3A and 10 as options to ASTM–D6522–00 (2005). You may obtain a copy of ASTM–D6522–00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM–D6522–00 (2005) may be used to test both CI and SI stationary RICE.

[b] You may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03.

[c] You may obtain a copy of ASTM–D6348–03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

■ 22. Table 5 to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 5 to Subpart ZZZZ of Part 63. Initial Compliance With Emission Limitations and Operating Limitations

As stated in §§ 63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE > 500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS.	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce CO emissions and not using oxidation catalyst.	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce formaldehyde emissions and using NSCR.	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce formaldehyde emissions and not using NSCR.	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
6. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP.	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR.	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP.	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR.	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if-. . .
8. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP.	a. Reduce CO or formaldehyde emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
9. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP.	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust.	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.

■ 23. Table 6 to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 6 to Subpart ZZZZ of Part 63. Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in § 63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP.	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS.	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; [a] and ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP.	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS.	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; [a] and ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP, existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year.	a. Reduce CO emissions and using a CEMS	i. Collecting the monitoring data according to § 63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction of CO emissions according to § 63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP.	a. Reduce formaldehyde emissions and using NSCR.	i. Collecting the catalyst inlet temperature data according to § 63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP.	a. Reduce formaldehyde emissions and not using NSCR.	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP.	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP.	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR.	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit;[a] and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP.	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR.	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit;[a] and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year.	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE.	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using oxidation catalyst or NSCR.	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE.	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR.	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year.	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR.	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year.	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR.	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

[a] After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

■ 24. Table 7 to Subpart ZZZZ of Part 63 is revised to read as follows:

Table 7 to Subpart ZZZZ of Part 63. Requirements for Reports

As stated in § 63.6650, you must comply with the following requirements for reports:

For each ...	You must submit a ...	The report must contain ...	You must submit the report ...
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE > 500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP.	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4)	i. Semiannually according to the requirements in §63.6650(b)(1)–(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)–(9) for engines that are limited use stationary RICE subject to numerical emission limitations. i. Semiannually according to the requirements in §63.6650(b). i. Semiannually according to the requirements in §63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and c. Any problems or errors suspected with the meters.	i. Annually, according to the requirements in §63.6650. i. See item 2.a.i. i. See item 2.a.i.

■ 25. Appendix A to Part 63 is amended by adding, in numerical order, Method 323 to read as follows:

Appendix A to Part 63—Test Methods

* * * * *

Method 323—Measurement of Formaldehyde Emissions From Natural Gas-Fired Stationary Sources—Acetyl Acetone Derivitization Method

1.0 Introduction. This method describes the sampling and analysis procedures of the acetyl acetone colorimetric method for measuring formaldehyde emissions in the exhaust of natural gas-fired, stationary combustion sources. This method, which was prepared by the Gas Research Institute (GRI), is based on the Chilled Impinger Train Method for Methanol, Acetone, Acetaldehyde, Methyl Ethyl Ketone, and Formaldehyde (Technical Bulletin No. 684) developed and published by the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI). However, this method has been prepared specifically for formaldehyde and does not include specifications (*e.g.*, equipment and supplies) and procedures (*e.g.*, sampling and analytical) for methanol, acetone, acetaldehyde, and methyl ethyl ketone. To obtain reliable results, persons using this method should have a thorough knowledge of at least Methods 1 and 2 of 40 CFR Part 60, Appendix A–1; Method 3 of 40 CFR Part 60, Appendix A–2; and Method 4 of 40 CFR Part 60, Appendix A–3.

1.1 Scope and Application

1.1.1 Analytes. The only analyte measured by this method is formaldehyde (CAS Number 50–00–0).

1.1.2 Applicability. This method is for analyzing formaldehyde emissions from uncontrolled and controlled natural gas-fired, stationary combustion sources.

1.1.3 Data Quality Objectives. If you adhere to the quality control and quality assurance requirements of this method, then you and future users of your data will be able to assess the quality of the data you obtain and estimate the uncertainty in the measurements.

2.0 Summary of Method. An emission sample from the combustion exhaust is drawn through a midget impinger train containing chilled reagent water to absorb formaldehyde. The formaldehyde concentration in the impinger is determined by reaction with acetyl acetone to form a colored derivative which is measured colorimetrically.

3.0 Definitions

[Reserved].

4.0 Interferences. The presence of acetaldehyde, amines, polymers of formaldehyde, periodate, and sulfites can cause interferences with the acetyl acetone procedure which is used to determine the formaldehyde concentration. However, based on experience gained from extensive testing of natural gas-fired combustion sources using FTIR to measure a variety of compounds, GRI expects only acetaldehyde to be potentially present when combusting natural gas. Acetaldehyde has been reported to be a significant interference only when present at concentrations above 50 ppmv. However, GRI reports that the concentration of acetaldehyde from gas-fired sources is very low (typically below the FTIR detection limit of around 0.5 ppmv); therefore, the potential positive bias due to acetaldehyde interference is expected to be negligible.

5.0 Safety

5.1 Prior to applying the method in the field, a site-specific Health and Safety Plan should be prepared. General safety precautions include the use of steel-toed boots, safety glasses, hard hats, and work gloves. In certain cases, facility policy may require the use of fire-resistant clothing while on-site. Since the method involves testing at high-temperature sampling locations, precautions must be taken to limit the potential for exposure to high-temperature gases and surfaces while inserting or removing the sample probe. In warm locations, precautions must also be taken to avoid dehydration.

5.2 Potential chemical hazards associated with sampling include formaldehyde, nitrogen oxides (NO_X), and carbon monoxide (CO). Formalin solution, used for field spiking, is an aqueous solution containing formaldehyde and methanol. Formaldehyde is a skin, eye, and respiratory irritant and a carcinogen, and should be handled accordingly. Eye and skin contact and inhalation of formaldehyde vapors should be avoided. Natural gas-fired combustion sources can potentially emit CO at toxic concentrations. Care should be taken to minimize exposure to the sample gas while inserting or removing the sample probe. If the work area is enclosed, personal CO monitors should be used to insure that the concentration of CO in the work area is maintained at safe levels.

5.3 Potential chemical hazards associated with the analytical procedures include acetyl acetone and glacial acetic acid. Acetyl acetone is an irritant to the skin and respiratory system, as well as being moderately toxic. Glacial acetic acid is highly corrosive and is an irritant to the skin, eyes, and respiratory system. Eye and skin contact and inhalation of vapors should be avoided. Acetyl acetone and glacial acetic acid have flash points of 41 °C (105.8 °F) and 43 °C (109.4 °F), respectively. Exposure to heat or flame should be avoided.

6.0 Equipment and Supplies

6.1 Sampling Probe. Quartz glass probe with stainless steel sheath or stainless steel probe.

6.2 Teflon Tubing. Teflon tubing to connect the sample probe to the impinger train. A heated sample line is not needed since the sample transfer system is rinsed to recover condensed formaldehyde and the rinsate combined with the impinger contents prior to sample analysis.

6.3 Midget Impingers. Three midget impingers are required for sample collection. The first impinger serves as a moisture knockout, the second impinger contains 20 mL of reagent water, and the third impinger contains silica gel to remove residual moisture from the sample prior to the dry gas meter.

6.4 Vacuum Pump. Vacuum pump capable of delivering a controlled extraction flow rate between 0.2 and 0.4 L/min.

6.5 Flow Measurement Device. A rotameter or other flow measurement device is required to indicate consistent sample flow.

6.6 Dry Gas Meter. A dry gas meter is used to measure the total sample volume collected. The dry gas meter must be sufficiently accurate to measure the sample volume to within 2 percent, calibrated at the selected flow rate and conditions actually encountered during sampling, and equipped with a temperature sensor (dial thermometer, or equivalent) capable of measuring temperature accurately to within 3 °C (5.4 °F).

6.7 Spectrophotometer. A spectrophotometer is required for formaldehyde analysis, and must be capable of measuring absorbance at 412 nm.

7.0 Reagents and Standards

7.1 Sampling Reagents

7.1.1 Reagent water. Deionized, distilled, organic-free water. This water is used as the capture solution, for rinsing the sample probe, sample line, and impingers at the completion of the sampling run, in reagent dilutions, and in blanks.

7.1.2 Ice. Ice is necessary to pack around the impingers during sampling in order to keep the impingers cold. Ice is also needed for sample transport and storage.

7.2 Analysis

7.2.1 Acetyl acetone Reagent. Prepare the acetyl acetone reagent by dissolving 15.4 g of ammonium acetate in 50 mL of reagent water in a 100-mL volumetric flask. To this solution, add 0.20 mL of acetyl acetone and 0.30 mL of glacial acetic acid. Mix the solution thoroughly, then dilute to 100 mL with reagent water. The solution can be stored in a brown glass bottle in the refrigerator, and is stable for at least two weeks.

7.2.2 Formaldehyde. Reagent grade.

7.2.3 Ammonium Acetate

7.2.4 Glacial Acetic Acid

8.0 Sample Collection, Preservation, Storage, and Transport

8.1 Pre-test

8.1.1 Collect information about the site characteristics such as exhaust pipe diameter, gas flow rates, port location, access to ports, and safety requirements during a pre-test site survey. You should then decide the sample collection period per run and the target sample flow rate based on your best estimate of the formaldehyde concentration likely to be present. You want to assure that sufficient formaldehyde is captured in the impinger solution so that it can be measured precisely by the spectrophotometer. You may use Equation 323–1 to design your test program. As a guideline for optimum performance, if you can, design your test so that the liquid concentration (C_l) is approximately 10 times the assumed spectrophotometer detection limit of 0.2 µg/mL. However, since actual detection limits are instrument specific, we also suggest that you confirm that the laboratory equipment can meet or exceed this detection limit.

8.1.2 Prepare and then weigh the midget impingers prior to configuring the sampling train. The first impinger is initially dry. The second impinger contains 20 mL of reagent water, and the third impinger contains silica gel that is added before weighing the impinger. Each prepared impinger is weighed and the pre-sampling weight is recorded to the nearest 0.5 gm.

8.1.3 Assemble the sampling train (see Figure 1). Ice is packed around the impingers in order to keep them cold during sample collection. A small amount of water may be added to the ice to improve thermal transfer.

8.1.4 Perform a sampling system leak check (from the probe tip to the pump outlet) as follows: Connect a rotameter to the outlet of the pump. Close off the inlet to the probe and observe the leak rate. The leak rate must be less than 2 percent of the planned sampling rate of 0.2 or 0.4 L/min.

8.1.5 Source gas temperature and static pressure should also be considered prior to field sampling to ensure adequate safety precautions during sampling.

8.2 Sample Collection

8.2.1 Set the sample flow rate between 0.2–0.4 L/min, depending upon the anticipated concentration of formaldehyde in the engine exhaust. (You may have to refer to published data for anticipated concentration levels—see References 5 and 6.) If no information is available for the anticipated levels of formaldehyde, use the higher sampling rate of 0.4 L/min.

8.2.2 Record the sampling flow rate every 5 to 10 minutes during the sample collection period. **NOTE:** It is critical that you do not sample at a flow rate higher than 0.4 L/min. Sampling at higher flow rates may reduce formaldehyde collection efficiency resulting in measured formaldehyde concentrations that are less than the actual concentrations.

8.2.3 Monitor the amount of ice surrounding the impingers and add ice as necessary to maintain the proper impinger temperature. Remove excess water as needed to maintain an adequate amount of ice.

8.2.4 Record measured leak rate, beginning and ending times and dry gas meter readings for each sampling run, impinger weights before and after sampling, and sampling flow rates and dry gas meter exhaust temperature every 5 to 10 minutes during the run, in a signed and dated notebook.

8.2.5 If possible, monitor and record the fuel flow rate to the engine and the exhaust oxygen concentration during the sampling period. This data can be used to estimate the engine exhaust flow rate based on the Method 19 approach. This approach, if accurate fuel flow rates can be determined, is preferred for reciprocating IC engine exhaust flow rate estimation due to the pulsating nature of the engine exhaust. The F–Factor procedures described in Method 19 may be used based on measurement of fuel flow rate and exhaust oxygen concentration. One example equation is Equation 323–2.

8.3 Post-test. Perform a sampling system leak-check (from the probe tip to pump outlet). Connect a rotameter to the outlet of the pump. Close off the inlet to the probe and observe the leak rate. The leak rate must be less than 2 percent of the sampling rate. Weigh and record each impinger immediately after sampling to determine the moisture weight gain. The impinger weights are measured before transferring the impinger contents, and before rinsing the sample probe and sample line. The moisture content of the exhaust gas is determined by measuring the weight gain of the impinger solutions and volume of gas sampled as described in Method 4. Rinse the sample probe and sample line with reagent water. Transfer the impinger catch to an amber 40-mL VOA bottle with a Teflon-lined cap. If there is a small amount of liquid in the dropout impinger (< 10 mL), the impinger catches can be combined in one 40 mL VOA bottle. If there is a larger amount of liquid in the dropout impinger, use a larger VOA bottle to combine the impinger catches. Rinse the impingers and combine the rinsings from the sample probe, sample line, and impingers with the impinger catch. In general, combined rinse volumes should not exceed 10 mL. However, in cases where a long, flexible extension line must be used to connect the sample probe to the sample box, sufficient water must be used to rinse the connecting line to insure that any sample that may have collected there is recovered. The volume of the rinses during sample recovery should not be excessive as this may result in your having to use a larger VOA bottle. This in turn would raise the detection limit of the method since after combining the rinses with the impinger catches in the VOA bottle, the bottle should be filled with reagent water to eliminate the headspace in the sample vial. Keep the sample bottles over ice until analyzed on-site or received at the laboratory. Samples should be analyzed as soon as possible to minimize possible sample degradation. Based on a limited number of previous analyses, samples held in refrigerated conditions showed some sample degradation over time.

8.4 Quality Control Samples

8.4.1 Field Duplicates. During at least one run, a pair of samples should be collected concurrently and analyzed as separate samples. Results of the field duplicate samples should be identified and reported with the sample results. The percent difference in exhaust (stack) concentration indicated by field duplicates should be within 20 percent of their mean concentration. Data are to be flagged as suspect if the duplicates do not meet the acceptance criteria.

8.4.2 Spiked Samples. An aliquot of one sample from each source sample set should be spiked at 2 to 3 times the formaldehyde level found in the unspiked sample. It is also recommended that a second aliquot of the same sample be spiked at around half the level of the first spike; however, the second spike is not mandatory. The results are acceptable if the measured spike recovery is 80 to 120 percent. Use Equation 323–4. Data are to be flagged as suspect if the spike recovery do not meet the acceptance criteria.

8.4.3 Field Blank. A field blank consisting of reagent water placed in a clean impinger train, taken to the test site but not sampled, then recovered and analyzed in the same manner as the other samples, should be collected with each set of source samples. The field blank results should be less than 50 percent of the lowest calibration standard used in the sample analysis. If this criteria is not met, the data should be flagged as suspect.

9.0 Quality Control

QA/QC	Acceptance	Frequency	Corrective action
Leak-check—Sections 8.1.4, 8.3 ...	< 2% of Sampling rate	Pre- and Post-sampling	Pre-sampling: Repair leak and re-check Post-sampling: Flag data and repeat run if for regulatory compliance.
Sample flow rate	Between 0.2 and 0.4 L/min	Throughout sampling	Adjust.
VOA vial headspace	No headspace	After sample recovery	Flag data.
Sample preservation	Maintain on ice	After sample recovery	Flag data.
Sample hold time	14 day maximum	After sample recovery	Flag data.
Field Duplicates—Section 8.4.1	Within 20% of mean of original and duplicate sample.	One duplicate per source sample set.	Flag data.
Spiked Sample—Section 8.4.2	Recovery between 80 and 120%	One spike per source sample set	Flag data.
Field Blank—Section 8.4.3	< 50% of the lowest calibration standard.	One blank per source sample set	Flag data.
Calibration Linearity—Section 10.1	Correlation coefficient of 0.99 or higher.	Per source sample set	Repeat calibration procedures.
Calibration Check Standard—Section 10.3.	Within 10% of theoretical value	One calibration check per source sample set.	Repeat check, remake standard and repeat, repeat calibration.
Lab Duplicates—Section 11.2.1	Within 10% of mean of original and duplicate sample analysis.	One duplicate per 10 samples	Flag data.
Analytical Blanks—Section 11.2.2	< 50% of the lowest calibration standard.	One blank per source sample set	Clean glassware/analytical equipment and repeat.

10.0 Calibration and Standardization

10.1 Spectrophotometer Calibration. Prepare a stock solution of 10 µg/mL formaldehyde. Prepare a series of calibration standards from the stock solution by adding 0, 0.1, 0.3, 0.7, 1.0, and 1.5 mL of stock solution (corresponding to 0, 1.0, 3.0, 7.0, 10.0, and 15.0 µg formaldehyde, respectively) to screw-capped vials. Adjust each vial's volume to 2.0 mL with reagent water. At this point the concentration of formaldehyde in the standards is 0.0, 0.5, 1.5, 3.5, 5.0, and 7.5 µg/mL, respectively. Add 2.0 mL of acetyl acetone reagent, thoroughly mix the solution, and place the vials in a water bath (or heating block) at 60 °C for 10 minutes. Remove the vials and allow to cool to room temperature. Transfer each solution to a cuvette and measure the absorbance at 412 nm using the spectrophotometer. Develop a calibration curve from the analytical results of these standards. The acceptance criteria for the spectrophotometer calibration is a correlation coefficient of 0.99 or higher. If this criteria is not met, the calibration procedures should be repeated.

10.2 Spectrophotometer Zero. The spectrophotometer should be zeroed with reagent water when analyzing each set of samples.

10.3 Calibration Checks. Calibration checks consisting of analyzing a standard separate from the calibration standards must be performed with each set of samples. The calibration check standard should not be prepared from the calibration stock solution. The result of the check standard must be within 10 percent of the theoretical value to be acceptable. If the acceptance criteria are not met, the standard must be reanalyzed. If still unacceptable, a new calibration curve must be prepared using freshly prepared standards.

11.0 Analytical Procedure

11.1 Sample Analysis. A 2.0-mL aliquot of the impinger catch/rinsate is transferred to a screw-capped vial. Two mL of the acetyl acetone reagent are added and the solution is thoroughly mixed. Once mixed, the vial is placed in a water bath (or heating block) at 60 °C for 10 minutes. Remove the vial and allow to cool to room temperature. Transfer the solution to a cuvette and measure the absorbance using the spectrophotometer at 412 nm. The quantity of formaldehyde present is determined by comparing the sample response to the calibration curve. Use Equation 323–5. If the sample response is out of the calibration range, the sample must be diluted and reanalyzed. Such dilutions must be performed on another aliquot of the original sample before the addition of the acetyl acetone reagent. The full procedure is repeated with the diluted sample.

11.2 Analytical Quality Control

11.2.1 Laboratory Duplicates. Two aliquots of one sample from each source sample set should be prepared and analyzed (with a minimum of one pair of aliquots for every 10 samples). The percent difference between aliquot analysis should be within 10 percent of their mean. Use Equation 323–3. Data are flagged if the laboratory duplicates do not meet this criteria.

11.2.2 Analytical blanks. Blank samples (reagent water) should be incorporated into each sample set to evaluate the possible presence of any cross-contamination. The acceptance criteria for the analytical blank is less than 50 percent of the lowest calibration standard. If the analytical blank does not meet this criteria, the glassware/analytical equipment should be cleaned and the analytical blank repeated.

12.0 Calculations and Data Analysis

12.1 Nomenclature

A = measured absorbance of 2 mL aliquot
B = estimated sampling rate, Lpm
C_l = target concentration in liquid, µg/mL
D = estimated stack formaldehyde concentration (ppmv)
E = estimated liquid volume, normally 40 mL (the size of the VOA used)
c_{form} = formaldehyde concentration in gas stream, ppmvd
c_{form} @15%O_2 = formaldehyde concentration in gas stream corrected to 15% oxygen, ppmvd
C_{sm} = measured concentration of formaldehyde in the spiked aliquot
C_u = measured concentration of formaldehyde in the unspiked aliquot of the same sample
C_s = calculated concentration of formaldehyde spiking solution added to the spiked aliquot
F = dilution factor, 1 unless dilution of the sample was needed to reduce the absorbance into the calibration range
F_d = dry basis F-factor from Method 19, dscf per million btu GCV_g = Gross calorific value (or higher heating value), btu per scf
K_c = spectrophotometer calibration factor, slope of the least square regression line, µg/absorbance (Note: Most spreadsheets are capable of calculating a least squares line.)
K_1 = 0.3855 °K/mm Hg for metric units, (17.65 °R/in.Hg for English units.)
MW = molecular weight, 30 g/g-mole, for formaldehyde 24.05 = mole specific volume constant, liters per g-mole
m = mass of formaldehyde in liquid sample, mg
P_{std} = Standard pressure, 760 mm Hg (29.92 in.Hg)
P_{bar} = Barometric pressure, mm Hg (in.Hg)
PD = Percent Difference
Q_e = exhaust flow rate, dscf per minute
Q_g = natural gas fuel flow rate, scf per minute
T_m = Average DGM absolute temperature, °K (°R).
T_{std} = Standard absolute temperature, 293 °K (528 °R).
t = sample time (minutes)
V_m = Dry gas volume as measured by the DGM, dcm (dcf).
$V_{m(std)}$ = Dry gas volume measured by the DGM, corrected to standard conditions of 1 atmosphere and 20 °C, dscm (dscf).
V_t = actual total volume of impinger catch/rinsate, mL
V_a = volume (2.0) of aliquot analyzed, mL
X_1 = first value
X_2 = second value
O_{2d} = oxygen concentration measured, percent by volume, dry basis
%R = percent recovery of spike
Z_u = volume fraction of unspiked (native) sample contained in the final spiked aliquot [*e.g.*, Vu/(Vu + Vs), where Vu + Vs should = 2.0 mL]
Z_s = volume fraction of spike solution contained in the final spiked aliquot [*e.g.*, Vs/(Vu + Vs)]
R = 0.02405 dscm per g-mole, for metric units at standard conditions of 1 atmosphere and 20 °C
Y = Dry Gas Meter calibration factor

12.2 Pretest Design

$$C_l = \frac{B*t*D*30}{24.05*E} \qquad \text{Eq. 323-1}$$

12.3 Exhaust Flow Rate

$$Q = \frac{F_d Q_g GCV_g}{10^6}\left[\frac{20.9}{20.9 - O_{2d}}\right] \qquad \text{Eq. 323-2}$$

12.4 Percent Difference—(Applicable to Field and Lab Duplicates)

$$PD = \frac{(X_1 - X_2)}{\left(\frac{X_1 + X_2}{2}\right)}*100 \qquad \text{Eq. 323-3}$$

12.5 Percent Recovery of Spike

$$\%R = \frac{(C_{sm} - Z_u C_u)}{Z_s C_s}*100 \qquad \text{Eq. 323-4}$$

12.6 Mass of Formaldehyde in Liquid Sample

$$m = K_c * A * F\left(\frac{V_t}{V_a}\right)\left(\frac{1\ mg}{1000\ .g}\right) \qquad \text{Eq. 323-5}$$

12.7 Dry Gas Sample Volume Corrected to Standard Conditions

$$V_{m(std)} = \frac{(V_m Y T_{std} P_{bar})}{T_m P_{std}} \quad \text{Eq. 323-6}$$

$$= \frac{K_1 Y V_m P_{bar}}{T_m}$$

12.8 Formaldehyde Concentration in gas Stream

$$c_{form} = \frac{R}{MW}\left(\frac{m}{V_{m(std)}}\right)\left(\frac{1\,g}{1000\,mg}\right)\left(1\times10^{6}\,ppmv\right) \quad \text{Eq. 323-7}$$

12.9 Formaldehyde Concentration Corrected to 15% Oxygen

$$c_{form@15\%O_2} = c_{form} * \frac{(20.9-15)}{(2.9-O_{2d})} \quad \text{Eq. 323-8}$$

13.0 Method Performance

13.1 Precision. Based on a Method 301 validation using quad train arrangement with post sampling spiking study of the method at a natural gas-fired IC engine, the relative standard deviation of six pairs of unspiked samples was 11.2 percent at a mean stack gas concentration of 16.7 ppmvd.

13.2 Bias. No bias correction is allowed. The single Method 301 validation study of the method at a natural gas-fired IC engine, indicated a bias correction factor of 0.91 for that set of data. An earlier spiking study got similar average percent spike recovery when spiking into a blank sample. This data set is too limited to justify using a bias correction factor for future tests at other sources.

13.3 Range. The range of this method for formaldehyde is 0.2 to 7.5 µg/mL in the liquid phase. (This corresponds to a range of 0.27 to 10 ppmv in the engine exhaust if sampling at a rate of 0.4 Lpm for 60 minutes and using a 40-mL VOA bottle.) If the liquid sample concentration is above this range, perform the appropriate dilution for accurate measurement. Any dilutions must be taken from new aliquots of the original sample before reanalysis.

13.4 Sample Stability. Based on a sample stability study conducted in conjunction with the method validation, sample degradation for 7- and 14-day hold times does not exceed 2.3 and 4.6 percent, respectively, based on a 95 percent level of confidence. Therefore, the recommended maximum sample holding time for the underivatized impinger catch/rinsings is 14 days, where projected sample degradation is below 5 percent.

14.0 Pollution Prevention

Sample gas from the combustion source exhaust is vented to the atmosphere after passing through the chilled impinger sampling train. Reagent solutions and samples should be collected for disposal as aqueous waste.

15.0 Waste Management

Standards of formaldehyde and the analytical reagents should be handled according to the Material Safety Data Sheets.

16.0 References

1. National Council of the Paper Industry for Air and Stream Improvement, Inc. "Volatile Organic Emissions from Pulp and Paper Mill Sources, Part X—Test Methods, Quality Assurance/Quality Control Procedures, and Data Analysis Protocols." Technical Bulletin No. 684, December 1994.

2. National Council of the Paper Industry for Air and Stream Improvement, Inc., "Field Validation of a Source Sampling Method for Formaldehyde, Methanol, and Phenol at Wood Products Mills." 1997 TAPPI International Environmental Conference.

3. Roy F. Weston, Inc. "Formaldehyde Sampling Method Field Evaluation and Emission Test Report for Georgia-Pacific Resins, Inc., Russellville, South Carolina." August 1996.

4. Hoechst Celanese Method CL 8–4. "Standard Test Method for Free Formaldehyde in Air Using Acetyl Acetone." Revision 0, September 1986.

5. Shareef, G.S., *et al.* "Measurement of Air Toxic Emissions from Natural Gas-Fired Internal Combustion Engines at Natural Gas Transmission and Storage Facilities." Report No. GRI–96/0009.1, Gas Research Institute, Chicago, Illinois, February 1996.

6. Gundappa, M., *et al.* "Characteristics of Formaldehyde Emissions from Natural Gas-Fired Reciprocating Internal Combustion Engines in Gas Transmission. Volume I: Phase I Predictive Model for Estimating Formaldehyde Emissions from 2–Stroke Engines." Report No. GRI–97/0376.1, Gas Research Institute, Chicago, Illinois, September 1997.

17.0 Tables, Diagrams, Flowcharts, and Validation Data

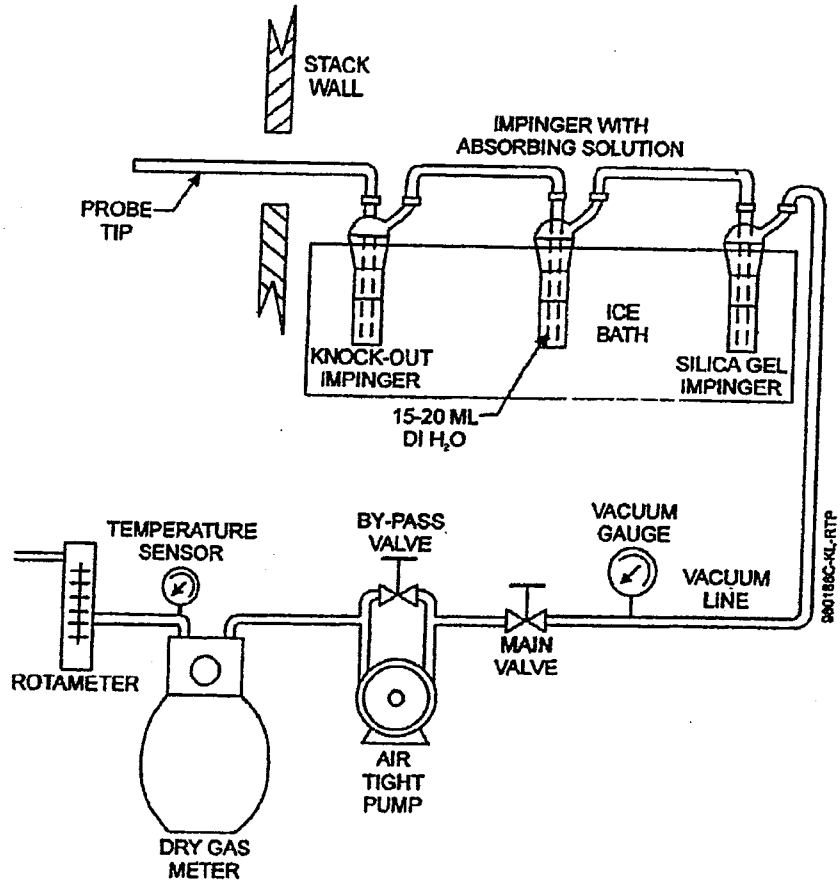


Figure 323-1. Chilled Impinger Train Sampling System

[FR Doc. 2010–20298 Filed 8–19–10; 8:45 am]
BILLING CODE 6560–50–P

Federal Register

Thursday,
September 9, 2010

Part II

Environmental Protection Agency

40 CFR Parts 60 and 63
National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA–HQ–OAR–2002–0051; EPA–HQ–OAR–2007–0877; FRL–9189–2]

RIN 2060–AO15, 2060–AO42

National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is finalizing amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) from the Portland Cement Manufacturing Industry and to the New Source Performance Standards (NSPS) for Portland Cement Plants.

The final amendments to the NESHAP add or revise, as applicable, emission limits for mercury, total hydrocarbons (THC), and particulate matter (PM) from new and existing kilns located at major and area sources, and for hydrochloric acid (HCl) from new and existing kilns located at major sources. The standards for new kilns apply to facilities that commence construction, modification, or reconstruction after May 6, 2009.

The final amendments to the NSPS add or revise, as applicable, emission limits for PM, opacity, nitrogen oxides (NO_X), and sulfur dioxide (SO_2) for facilities that commence construction, modification, or reconstruction after June 16, 2008. The final rule also includes additional testing and monitoring requirements for affected sources.

DATES: These final rules are effective on November 8, 2010. The incorporation by reference of certain publications listed in this rule is approved by the Director of the Federal Register on November 8, 2010.

ADDRESSES: EPA has established two separate dockets for these actions: Docket ID No. EPA–HQ–OAR–2007–0877 for the amendments to the NSPS and Docket ID No. EPA–HQ–OAR–2002–0051 for the amendments to the NESHAP. All documents in the two dockets are listed in the *http://www.regulations.gov* index. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the EPA Docket Center, Standards of Performance for Portland Cement Plants Docket, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Mr. Keith Barnett; Office of Air Quality Planning and Standards; Sector Policies and Programs Division, Metals and Minerals Group (D243–02); Environmental Protection Agency; Research Triangle Park, NC 27711; telephone number: (919) 541–5605; fax number: (919) 541–5450; e-mail address: *barnett.keith@epa.gov*.

SUPPLEMENTARY INFORMATION: The supplementary information presented in this preamble is organized as follows:

I. General Information
A. Does this action apply to me?
B. Where can I get a copy of this document?
C. Judicial Review
II. Background Information on the NESHAP, 40 CFR Part 63, Subpart LLL
A. What is the statutory basis for the NESHAP in 40 CFR part 63, subpart LLL?
B. Summary of the National Lime Association v. EPA Litigation
C. EPA's Response to the Remand
D. Reconsideration of EPA Final Action in Response to the Remand
III. Background Information From the NSPS 40 CFR Part 60, Subpart F
IV. Summary of EPA's Final Action on Amendments
A. What are EPA's final actions on 40 CFR part 63, subpart LLL?
B. What are EPA's final actions on 40 CFR part 60, subpart F?
C. What is EPA's sector-based approach?
V. Responses to Major Comments
A. What are the significant comments and responses on 40 CFR part 63, subpart LLL?
B. What are the significant comments and responses on 40 CFR part 60, subpart F?
VI. Summary of Cost, Environmental, Energy, and Economic Impacts of the Final Amendments to Subpart LLL and Subpart F
VII. 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
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 Advancement Act
J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act

I. General Information

A. Does this action apply to me?

Categories and entities potentially regulated by this final rule include:

Category	NAICS code [1]	Examples of regulated entities
Industry	327310	Portland cement manufacturing plants.
Federal government	.....	Not affected.
State/local/Tribal government	.....	Portland cement manufacturing plants.

[1] North American Industry Classification System.

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 will be regulated by this action, you should examine the applicability criteria in 40 CFR 60.60 (subpart F) or in 40 CFR 63.1340 (subpart LLL). If you have any questions regarding the applicability of this final action to a particular entity, contact the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this final action is available on the Worldwide Web (WWW) through the Technology Transfer Network (TTN). Following

signature, a copy of this final action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at *http://www.epa.gov/ttn/oarpg*. The TTN provides information and technology exchange in various areas of air pollution control.

C. Judicial Review

Under section 307(b)(1) of the Clean Air Act (CAA), judicial review of these final rules are available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by November 8, 2010. Under section 307(b)(2) of the CAA, the requirements established by these final rules may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

Section 307(d)(7)(B) of the CAA further provides that "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review." This section also provides a mechanism for EPA to convene a proceeding for reconsideration, "[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule." Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

II. Background Information on the NESHAP, 40 CFR Part 63, Subpart LLL

A. What is the statutory basis for the NESHAP in 40 CFR part 63, subpart LLL?

Section 112 of the CAA establishes a regulatory process to address emissions of hazardous air pollutants (HAP) from stationary sources. After EPA has identified categories of sources emitting one or more of the HAP listed in section 112(b) of the CAA, section 112(d) requires us to promulgate NESHAP for those sources. For "major sources" that emit or have the potential to emit 10 tons per year (tpy) or more of a single HAP or 25 tpy or more of a combination of HAP, these technology-based standards must reflect the maximum reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts) and are commonly referred to as maximum achievable control technology (MACT) standards.

The statute specifies certain minimum stringency requirements for MACT standards, which are referred to as "floor" requirements. *See* CAA section 112(d)(3). Specifically, 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 (for which the Administrator has emissions information) in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources).

In developing MACT, we must also consider control options that are more stringent than the floor. We may establish standards 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).

Section 112(k)(3)(B) of the CAA requires EPA to identify at least 30 HAP that pose the greatest potential health threat in urban areas, and section 112(c)(3) requires EPA to regulate, under section 112(d) standards, the area source [1] categories that represent 90 percent of the emissions of the 30 "listed" HAP ("urban HAP"). We implemented these listing requirements through the Integrated Urban Air Toxics Strategy (64 FR 38715, July 19, 1999).[2]

The Portland cement manufacturing source category was listed for regulation under this 1999 Urban Strategy based on emissions of arsenic, cadmium, beryllium, lead, and polychlorinated biphenyls (PCB). The final NESHAP for the Portland Cement Manufacturing Industry (64 FR 31898, June 14, 1999) included emission limits based on performance of MACT for the control of THC emissions from area sources. This 1999 rule fulfills the requirement to regulate area source cement kiln emissions of PCB (for which THC is a surrogate). However, EPA did not include requirements for the control of the non-volatile metal HAP (arsenic, cadmium, beryllium, and lead) from area sources in the 1999 rule or in the 2006 amendments. To fulfill our requirements under CAA section 112(c)(3) and 112(k), EPA is thus setting emissions standards for these metal HAP from Portland cement manufacturing facilities that are area sources (using PM as a surrogate). In this final rule EPA is promulgating PM standards for area sources based on performance of MACT, PM being a surrogate for these (and other non-volatile) HAP metals.

Section 112(c)(6) requires that EPA list categories and subcategories of sources assuring that sources accounting for not less than 90 percent of the aggregate emissions of each of seven specified HAP are subject to standards under section 112(d)(2) or (d)(4). The seven HAP are as follows: Alkylated lead compounds; polycyclic organic matter; hexachlorobenzene; mercury; polychlorinated byphenyls; 2,3,7,8-tetrachlorodibenzofurans; and 2,3,7,8-tetrachloroidibenzo-p-dioxin. Standards established under CAA section 112(d)(2) must reflect the performance of MACT. "Portland cement manufacturing: Non-hazardous waste kilns" is listed as a source category pursuant to CAA section 112(c)(6) due to emissions of polycyclic organic matter (POM), mercury, and dioxin/furans. Consistent with the requirements of CAA section 112(c)(6), we set MACT standards for these pollutants. 63 FR 17838, 17848, April 10, 1998; *see also* 63 FR at 14193 (March 24, 1998) (area source cement kilns' emissions of mercury, dibenzo-p-dioxins and dibenzo-p-furans, POM, and PCB are subject to MACT).

Section 129(a)(1)(A) of the CAA requires EPA to establish specific performance standards, including emission limitations, for "solid waste incineration units" generally, and, in particular, for "solid waste incineration units combusting commercial or industrial waste" (CAA section 129(a)(1)(D)).[3]

[1] An area source is a stationary source of HAP emissions that is not a major source. A major source is a stationary source that emits or has the potential to emit 10 tpy or more of any HAP or 25 tpy or more of any combination of HAP.

[2] Since its publication in the Integrated Urban Air Toxics Strategy in 1999, EPA has amended the area source category list several times.

[3] CAA section 129 refers to the Solid Waste Disposal Act (SWDA). However, this Act, as amended is commonly referred to as RCRA.

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

In *Natural Resources Defense Council* v. *EPA*, 489 F. 3d 1250, 1257–61 (DC Cir. 2007), the Court vacated the Commercial and Industrial Solid Waste Incineration Units (CISWI) Definitions Rule, 70 FR 55568 (Sept. 22, 2005), which EPA issued pursuant to CAA section 129(a)(1)(D).

In response to the Court's remand and vacatur of the CISWI Definitions rule, EPA initiated a rulemaking to identify which secondary materials are non-hazardous "solid waste" for purposes of subtitle D (non-hazardous waste) of the RCRA when burned in a combustion unit. *See* 75 FR 31844 (June 4, 2010). Any final definition adopted in that rulemaking, in turn, will determine the applicability of CAA section 129(a) (*i.e.*, any combustion unit that burns any non-hazardous secondary material that is considered to be a solid waste would be subject to CAA section 129 requirements).

There is presently no Federal regulatory interpretation of "solid waste" for EPA to apply under Subtitle D of RCRA for purposes of CAA section 112 and 129. EPA is not prejudging, and cannot prejudge the outcome of the recently proposed non-hazardous solid waste rulemaking. EPA therefore cannot reliably determine at this time if the non-hazardous secondary materials combusted by cement kilns are to be classified as solid wastes. Accordingly, EPA is basing all determinations as to source classification on the emissions information now available, as required by CAA section 112(d)(3), and will necessarily continue to do so until the solid waste definition discussed above is promulgated. The current data base classifies all Portland cement kilns as CAA section 112 sources (*i.e.*, subject to regulation under CAA section 112).

We proposed amendments to the Portland Cement Manufacturing NESHAP on May 6, 2009. *See* 74 FR 21136. We received a total of 3,229 comments from the Portland cement industry, environmental groups, State environmental agencies and others during the comment period. This final rule reflects our consideration of all the comments we received. Detailed responses to the comments not included in this preamble are contained in the Summary of Public Comments and Responses document, which is included in the docket for this rulemaking.

B. Summary of the National Lime Association v. EPA Litigation

On June 14, 1999 (64 FR 31898), EPA issued the NESHAP for the Portland Cement Manufacturing Industry (40 CFR part 63, subpart LLL).[4] The 1999 final rule established emission limitations for PM as a surrogate for non-volatile HAP metals (major sources only), dioxins/furans, and for greenfield[5] new sources total THC as a surrogate for organic HAP. These standards were intended to be based on the performance of MACT pursuant to CAA sections 112(d)(2) and (3). We did not establish limits for THC for existing sources and non-greenfield new sources, nor for HCl or mercury for new or existing sources. We reasoned that emissions of these constituents were a function of raw material concentrations and so were essentially uncontrolled, the result being that there was no level of performance on which a floor could be based. EPA further found that beyond the floor standards for these HAP were not warranted.

Ruling on petitions for review of various environmental groups, the DC Circuit held that EPA had erred in failing to establish CAA section 112(d) standards for mercury, THC (except for greenfield new sources) and HCl. The court held that "[n]othing in the statute even suggests that EPA may set emission levels only for those * * * HAPs controlled with technology." *National Lime Ass'n* v. *EPA*, 233 F. 3d 625, 633 (DC Cir. 2000). The court also stated that EPA is obligated to consider other pollution–reducing measures such as process changes and material substitution. *Id.* at 634 ("the absence of technology-based pollution control devices for HCl, mercury, and total hydrocarbons did not excuse EPA from setting emission standards for those pollutants"). Later cases go on to hold that EPA must account for levels of HAP in raw materials and other inputs in establishing MACT floors, and further hold that sources with low HAP emission levels due to low levels of HAP in their raw materials can be considered best performers for purposes of establishing MACT floors. *See, e.g.*, *Cement Kiln Recycling Coalition* v. *EPA*, 255 F. 2d 855, 865–66 (DC Cir. 2001); *Sierra Club* v. *EPA* ("Brick MACT"), 479 F. 3d 875, 882–83 (DC Cir. 2007).[6]

C. EPA's Response to the Remand

In response to the *National Lime Ass'n* mandate, on December 2, 2005, we proposed standards for mercury, THC, and HCl. (More information on the regulatory and litigation history may be found at 70 FR 72332, December 2, 2005.) We received over 1,700 comments on the proposed amendments. Most of these comments addressed the lack of a mercury emission limitation in the proposed amendments. On December 20, 2006 (71 FR 76518), EPA published final amendments to the NESHAP. The 2006 amendments contained a new source standard for mercury emissions from cement kilns and kilns/in-line raw mills of 41 micrograms per dry standard cubic meter, or alternatively the application of a limestone wet scrubber with a liquid-to-gas ratio of 30 gallons per 1,000 actual cubic feet per minute of exhaust gas. The final rule also adopted a standard for new and existing sources banning the use of utility boiler fly ash in cement kilns where the fly ash mercury content has been increased through the use of activated carbon or any other sorbent unless the cement kiln seeking to use the fly ash can demonstrate that the use of fly ash will not result in an increase in mercury emissions over its baseline mercury emissions (*i.e.*, emissions not using the mercury-laden fly ash). EPA also issued a THC standard for new cement kilns (except for greenfield cement kilns that commenced construction on or before December 2, 2005) of 20 parts per million (corrected to 7 percent oxygen) or 98 percent reduction in THC emissions from uncontrolled levels. EPA did not set a standard for HCl, determining that HCl was a pollutant for which a threshold had been established, and that no cement kiln, even under conservative operating conditions and exposure assumptions, would emit HCl at levels that would exceed that threshold level, allowing for an ample margin of safety. EPA pointed to CAA section 112(d)(4) authority as its rationale for not establishing HCl emissions limits.

[4] Cement kilns which burn hazardous waste are a separate source category, since their emissions of many HAP differ from Portland cement kilns' as a result of the hazardous waste inputs. Rules for hazardous waste-burning cement kilns are found at subpart EEE of part 63.

[5] For purposes of the 1999 rule a new greenfield kiln is a kiln constructed after March 24, 1998, at a site where there are no existing kilns.

[6] In the remainder of the opinion, the Court in *National Lime Ass'n* upheld EPA's standards for PM and dioxin (on grounds that petitioner had not properly raised arguments in its opening brief), upheld EPA's use of PM as a surrogate for HAP metals, and remanded for further explanation EPA's choice of an analytic method for HCl.

D. Reconsideration of EPA Final Action in Response to the Remand

At the same time we issued the final amendments, EPA on its own initiative made a determination to reconsider the new source standard for mercury, the existing and new source standard banning cement kiln use of certain mercury-containing fly ash, and the new source standard for THC (71 FR 76553, December 20, 2006). EPA granted reconsideration of the new source mercury standard both due to substantive issues relating to the performance of wet scrubbers and because information about their performance in the industry had not been available for public comment at the time of proposal; that information is now available in the docket. We also committed to undertake a test program for mercury emissions from cement kilns equipped with wet scrubbers that would enable us to resolve these issues. We further explained that we were granting reconsideration of the work practice requirement banning the use of certain mercury-containing fly ash in cement kilns to allow further opportunity for comment on both the standard and the underlying rationale and because we did not feel we had the level of analysis we would like to have to support a beyond-the-floor determination. We granted reconsideration of the new source standard for THC because the information on which the standard was based arose after the period for public comment. We requested comment on the actual standard, whether the standard is appropriate for reconstructed new sources (if any should occur) and the information on which the standard is based. We specifically solicited data on THC emission levels from preheater/precalciner cement kilns. We stated that we would evaluate all data and comments received, and determine whether in light of those data and comments it was appropriate to amend the promulgated standards.

EPA received comments on the notice of reconsideration from two cement companies, three energy companies, three industry associations, a technical consultant, one State, one environmental group, one ash management company, one fuels company, and one private citizen. As part of these comments, one industry trade association submitted a petition to withdraw the new source MACT standards for mercury and THC and one environmental group submitted a petition for reconsideration of the 2006 final action. A summary of these comments is available in the docket for this rulemaking.[7]

In addition to the reconsideration discussed above, EPA received a petition from Sierra Club requesting reconsideration of the existing source standards for THC, mercury, and HCl, and judicial petitions for review challenging the final amendments. EPA granted the reconsideration petition. The judicial petitions have been combined and are being held in abeyance pending the results of the reconsideration.

In March 2007 the DC Circuit Court issued an opinion (*Sierra Club* v. *EPA*, 479 F.3d 875 (DC Cir. 2007) (*Brick MACT*)) vacating and remanding CAA section 112(d) MACT standards for the Brick and Structural Clay Ceramics source categories. Some key holdings in that case were:

- Floors for existing sources must reflect the average emission limitation achieved by the best performing 12 percent of existing sources, not levels EPA considers to be achievable by all sources (479 F. 3d at 880–81);
- EPA cannot set floors of "no control." The Court reiterated its prior holdings, including *National Lime Ass'n*, confirming that EPA must set floor standards for all HAP emitted by the major source, including those HAP that are not controlled by at-the-stack control devices (479 F. 3d at 883); and
- EPA cannot ignore non-technology factors that reduce HAP emissions, including when determining which sources are best performers for purposes of ascertaining the MACT floor. Specifically, the Court held that "EPA's decision to base floors exclusively on technology even though non-technology factors affect emissions violates the Act." (479 F. 3d at 883).

Based on the statute, as interpreted in the *Brick MACT* decision, we believe a source's performance resulting from the presence or absence of HAP in raw materials must be accounted for in establishing floors; *i.e.*, a low emitter due to low HAP proprietary raw materials can still be a best performer. In addition, the fact that a specific level of performance is not being intentionally achieved by the source is not a legal basis for excluding the source's performance from consideration. *Sierra Club* v. *EPA*, 479 F.3d at 631–34; *National Lime Ass'n*, 233 F. 3d at 640.

The *Brick MACT* decision also reiterated that EPA may account for variability in setting floors. However, the Court found that EPA erred in assessing variability because it relied on data from the worst performers to estimate best performers' variability, and held that "EPA may not use emission levels of the worst performers to estimate variability of the best performers without a demonstrated relationship between the two." 479 F. 3d at 882.

After considering the implications of this decision, EPA granted the petition for reconsideration of all the existing source standards in the 2006 rulemaking.

A second Court opinion of relevance to the Portland cement NESHAP amended here is *Sierra Club* v. *EPA*, 551 F. 3d 1019 (DC Cir. 2008). In that case, the court vacated the regulations contained in the General Provisions which exempt major sources from CAA section 112(d) standards during periods of startup, shutdown and malfunction (SSM). The regulations (in 40 CFR 63.6(f)(1) and 63.6(h)(1)) provided that sources need not comply with the relevant CAA section 112(d) standard during SSM events and instead must "minimize emissions * * * to the greatest extent which is consistent with safety and good air pollution control practices." The current Portland Cement NESHAP references the now-vacated rules in the General Provisions. As a result of the court's decision, we are removing the references to the vacated provisions and addressing SSM in this rulemaking. Discussion of this issue may be found in Section IV.A.

III. Background Information on the NSPS 40 CFR Part 60, Subpart F

NSPS implement CAA section 111(b) and are issued for categories of sources which cause, or contribute significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare. The primary purpose of the NSPS is to attain and maintain ambient air quality by ensuring that the best demonstrated emission control technologies are installed as the industrial infrastructure is modernized. Since 1970, the NSPS have been successful in achieving long-term emissions reductions in numerous industries by assuring cost-effective controls are installed on new, reconstructed, or modified sources.

Section 111 of the CAA requires that NSPS reflect the application of the best system of emission reductions which, taking into consideration the cost of achieving such emission reductions, any non-air quality health and environmental impact and energy requirements, the Administrator determines has been adequately

[7] Summary of Comments on December 20, 2006 Final Rule and Notice of Reconsideration. April 15, 2009.

demonstrated. This level of control is commonly referred to as best demonstrated technology (BDT). EPA promulgated Standards of Performance for Portland Cement Plants (40 CFR, part 61 subpart F) in 1971 ((36 FR 24876, December 23, 1971).

Section 111(b)(1)(B) of the CAA requires EPA to periodically review and revise the standards of performance, as necessary, to reflect improvements in methods for reducing emissions. We have conducted three reviews of the standards (39 FR 20793, June 14, 1974; 39 FR 39874, November 12, 1974; and 53 FR 50354, December 14, 1988).

We proposed the current review of the Portland Cement Plant NSPS on June 16, 2008. We received a total of 46 comments from the Portland cement industry, environmental groups, State environmental agencies and others during the comment period. This final rule reflects our consideration of all the comments we received. Detailed responses to the comments not included in this preamble are contained in the Summary of Public Comments and Responses document which is included in the docket for this rulemaking.

IV. Summary of EPA's Final Action on the Amendments

In this section we discuss the final amendments to 40 CFR part 63 subpart LLL and part 60 subpart F, the changes since proposal, and the rationale for the changes. Responses to specific comments may be found in the response to comment section of this document or in the response to comment documents contained in the dockets for this rulemaking.

As a preliminary matter, EPA notes that certain portions of the existing rules are not being amended substantively but are being reprinted, sometimes with editorial changes, in today's regulatory text. As explained at proposal, EPA did so either for readers' convenience or to make certain non-substantive "plain English" changes to rule text. 74 FR at 21140. The final rule text makes these same non-substantive changes (which did not occasion public comment), and reprints certain existing provisions. Provisions from the existing rules which do not change substantively include the PM emission limits for kilns currently subject to the NSPS, the opacity limits for raw materials dryers, raw mills, and finish mills, and the limits for dioxin furan (D/F) for cement kilns. We reorganized the testing and monitoring requirements of both rules to make them more consistent, and modified the rule language to better conform with the June 1, 1998, Executive Memorandum on Plain Language in Government Writing.

A. What are EPA's final actions on 40 CFR part 63, subpart LLL?

1. What are the final actions on emission limits under 40 CFR part 63, subpart LLL?

In this action, we are amending the emission limits for mercury, THC, and PM from new and existing kilns located at a major or area source, and for HCl from new and existing kilns located at major sources. We identify these standards below for the emission sources in a typical Portland cement production process. We have applied the limits for existing and new sources in this final rule for mercury and THC to area sources consistent with CAA section 112(c)(6). As noted above, mercury is one of the pollutants specifically singled out by Congress in CAA section 112(c)(6), and THC is a surrogate for POM and PCB, which are also section 112(c)(6) HAP. *See* 63 FR 14193, March 24, 1998 (determination to control all THC emissions from the source category under MACT standards). Finally, Portland cement kilns are a listed area source category for urban HAP metals pursuant to CAA section 112(c)(3), and control of these metal HAP emissions (via the standard for the PM non-mercury HAP metal surrogate) is required to ensure that area sources representing 90 percent of the area source emissions of urban metal HAP are subject to CAA section 112 control, as required by CAA section 112(c)(3). The PM standards for area sources reflect MACT, as explained below.

a. Changes to Overall Floor Setting Procedure

The MACT floor limits for each of the HAP and HAP surrogates (mercury, THC, HCl, and PM) are calculated based on the performance of the lowest emitting (considered best performing in this rulemaking) sources in each of the MACT floor pools for each HAP or HAP surrogate. We ranked all of the sources for which we had data based on their emissions and identified the lowest emitting 12 percent of the sources for which we had data, which ranged from two kilns for THC to 11 kilns for mercury for existing sources. For new source MACT, the floor was based on the best controlled source.

In assessing sources' performance, EPA may consider variability both in identifying which performers are "best" and in assessing their level of performance. *Brick MACT*, 479 F. 3d at 881–82; *see also Mossville Envt'l Action Now* v. *EPA*, 370 F.3d 1232, 1241–42 (DC Cir 2004) (EPA must exercise its judgment, based on an evaluation of the relevant factors and available data, to determine the level of emissions control that has been achieved by the best performing sources considering these sources' variability).

Variability in cement kilns' performance has a number of causes. For many of the pollutants, notably mercury and THC, most kilns do not have add-on control devices. The main source of variability for these pollutants consequently is the differing mercury and organic concentrations in the raw materials and fuels which are fed to the kiln. For particulate matter, which is well-controlled by baghouses, the variability is chiefly due to variations in performance of the control device for which both run-to-run and test-to-test variability must be accounted.[8]

In determining the MACT floor limits, we first determine the floor, which, as explained above, for existing sources is the level achieved in practice by the average of the top 12 percent of existing sources, or the level achieved in practice by the best controlled similar source for new sources. In this rule, EPA is using lowest emissions as the measure of best performance.

We then assess variability of the best performers by using a statistical formula designed to estimate a MACT floor level that is equivalent to the average of the best performing sources based on future compliance tests (or calculated inputs in the case of mercury). Specifically, the MACT floor limit is an upper prediction limit (UPL) calculated with the Student's t-test using the TINV function in Microsoft Excel®. The Student's t-test has also been used in other EPA rulemakings (*e.g.*, NSPS for Hospital/Medical/Infectious Waste Incinerators, NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters) in accounting for variability. A prediction interval for a future observation is an interval that will, with a specified degree of confidence, contain the next (or some other pre-specified) randomly selected observation from a population. In other words, the prediction interval estimates what the upper bound of future values will be, based upon present or past background samples taken. The UPL

[8] Run-to-run variability is essentially within-test variability, and encompasses variability in individual runs comprising the compliance test, and includes uncertainties in correlation of monitoring parameters and emissions, and imprecision of stack test methods and laboratory analysis. 72 FR at 54877 (Sept. 27, 2007). Test-to-test variability results from variability in pollution device control efficiencies over time (depending on many factors, including for fabric filters the point in the maintenance cycle in which a fabric filter is tested). Test-to-test variability can be termed long-term variability. 72 FR at 54878.

consequently represents the value which we can expect the mean of future observations (3-run average for HCl, 30-day average for mercury, PM, HCl (sources not having wet scrubbers or otherwise electing CEM-based compliance), and THC) to fall below within a specified level of confidence, based upon the results of an independent sample from the same population. In other words, if we were to randomly select a future test condition from any of these sources (*i.e.*, average of 3 runs or 30-day average) we can be 99 percent confident that the reported level will fall at or below the UPL value. Use of the UPL is appropriate in this rulemaking because it sets a limit any single or future source can meet based on the performance of members of the MACT pool.

This formula uses a pooled variance (in the s^2 term) that encompasses all the data-point to data-point variability of the best performing sources comprising the MACT floor pool for each HAP. Where variability was calculated using the UPL statistical approach (*i.e.*, for the Hg, HCl, and PM standards), we used the average (or sample mean) and sample standard deviation, which are two statistical measures calculated from the data distributions for mercury, HCl, and PM. The average is a central value of a data set, and the standard deviation is the common measure of the dispersion of the data set around the average. We describe in detail in the preamble sections on mercury, HCl and PM and in the memorandum "Development of the MACT Floors for the Final NESHAP for Portland Cement", August 6, 2010" how these averages were developed. We note here that the methodology accounts for both short-term and long-term variability and encompasses run-to-run and test-to-test variability. The formula also applies differently depending on how the underlying data set is distributed. To this end, EPA carefully evaluated the data sets for each HAP to ascertain whether the data were normally distributed, or distributed in some other manner (*i.e.*, log normally). After applying standard and rigorous statistical tests (involving the degree of "skewness" of the data), we determined that the distributions for mercury and particulate matter were approximately a normal distribution, which in turn determined the final form of the UPL equation. *See* Floor Calculations for Final Portland Cement NESHAP, August 6, 2010; *see also* 75 FR at 32019–20.

EPA was able to reasonably calculate variability for the THC and HCl standards without needing to use predictive statistics. Specifically, the data set for THC contains a sufficient number of observations to estimate the variability without the need of any type of statistical intervals (no UPL needed to be calculated). For HCl, although EPA applied the UPL formula in developing the HCl standard, the key issue for the HCl data set is the HCl analytic method's detection limit, which ultimately dictated the level of the standard.

At proposal we adopted a form of the UPL equation that has been used in a previous rulemaking. 69 FR 21233 April 20, 2004. Commenters stated correctly that there was an error in the equation used at proposal. As a result of these comments, EPA corrected the formula in the final rule. The UPL used in the final rule is calculated by:

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

Where:

$\bar{x}$ = the mean of the sample data set
n = the number of test runs
m = the number of test runs in the compliance average
s^2 = observed variance
t = student t distribution statistic

This calculation was performed using the following Excel functions:

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

This is the same UPL equation that EPA used in more recent rulemakings. *See* 75 FR 32020 (June 4, 2010) and 75 FR 31905 (June 4, 2010). The value of "m" denotes the number of future observations, and it is used to calculate an estimate of the variance of the average of m-future observations. For example, if 30-day averages are used to determine compliance (m=30), the amount of variability in the 30-day average is much lower than the variability of the daily measurements in the data base, which results in a lower UPL for the 30-day average.

As an illustration of the effects that correcting the UPL had on the emission limits, we calculated the UPLs for mercury and PM using the proposal version of the UPL formula, and the version used in this final rule. The results of these calculations are presented in Table 1. Both calculated limits are about 20 percent lower when the corrected UPL formula is used.

TABLE 1—COMPARISON EMISSION LIMITS CALCULATED USING PROPOSAL UPL FORMULA VERSUS CORRECTED UPL FORMULA FOR EXISTING SOURCES

	Proposal (uncorrected UPL formula)	Proposal (corrected UPL formula)
Mercury, (lb/MM tons feed) [lb/MM tons clinker]	29.6 [48.8]	22.5 [37.1]
PM (lb/ton clinker)	0.05	0.04

b. Ramifications of EPA Statistical Approach

A number of commenters maintained that this final rule raises the (perceived) quandry voiced by Judge Williams in his concurring opinion in *Brick MACT* where an achieved level of performance for purposes of CAA section 112(d)(3) results in a standard which is unachievable under CAA section 112(d)(2) because it is too costly or not cost-effective. *Brick MACT*, 479 F. 3d at 884–85. EPA is of course mindful of the repeated admonitions (with accompanying vacaturs and remands) from the DC Circuit that MACT floors must reflect achieved performance, that HAP content of process inputs (raw materials and fuels) must be accounted for in ascertaining sources' performance, and that costs cannot be considered by EPA in ascertaining the level of the MACT floor. *See, e.g., Brick MACT*, 479 F. 3d at 880–81, 882–83; *NRDC* v. *EPA*, 489 F. 3d 1364, 1376 (DC Cir. 2007) ("Plywood MACT"); *see also Cement Kiln Recycling Coalition* v. *EPA*, 255 F. 3d 855, 861–62 (DC Cir. 2001) ("achievability" requirement of CAA section 112(d)(2) cannot override the requirement that floors be calculated on the basis of what best performers actually achieved). EPA is also mindful of the need to account for sources' variability (both due to control device

performance and variability in inputs) in assessing sources' performance when developing technology-based standards. *See, e.g., Mossville Environmental Action Now* v. *EPA*, 370 F. 3d 1232, 1242 (DC Cir. 2004); *National Lime I*, 627 F. 2d 416,433–34(DC Cir. 1980). EPA has carefully developed data for each standard, assessing both technological controls and HAP inputs in doing so. For mercury, EPA used the pooled variance from all of the best performing kilns in the MACT floor pool in order to fully assess these kilns' intra-quarry and other variable mercury levels. EPA also used pooled variance to assess the variability of HCl and PM emissions for the MACT floor pool kilns. *See* 70 FR at 59438 (Oct. 12, 2005) (explaining when use of such pooled variances can be reasonable). EPA has also adopted 30-day averaging periods for all of the standards, further allowing short term fluctuations to be averaged out over the 30-day period.

The result are floors which reasonably estimate the performance over time of the best performing sources, as do the standards based on those floors. It is true that many sources will need to install controls to meet these standards, and that these controls have significant costs (although EPA estimates that the rule's costs are substantially outweighed by its benefits). *See* Section VI below. This is part of the expected MACT process where, by definition, the averaged performance of the very best performers sets the minimum level of the standard. The Agency believes that it has followed the statute and applicable case law in developing its floor methodology.

Industry commenters nonetheless maintained that EPA had not properly accounted for variability of the best performing sources because not even these sources can meet the standards which are predicated on their own performance without adding controls. This contention lacks a basis in the record. For mercury, all performers in the MACT floor pool—not just those with emissions below the average of the best performers— meet the promulgated standard (highest 30-day average in MACT pool is 41.63 lb/MM tons clinker; the standard is 55 lb/MM tons clinker (30-day average). In addition, several additional kilns, which are not in the pool of best performers, meet the standards. For THC, all kilns in the pool of best performers meet the promulgated standard (highest 30-day average in MACT pool is 5.68 ppmv; the standard is 24 ppmv). In addition, seven additional kilns which are not in the pool of best performers meet the standards. Indeed, nine of the 11 kilns for which EPA has CEM data are meeting the promulgated standards for THC. For PM, all six kilns in the MACT pool as well as twelve kilns overall meet the promulgated 30-day standard even though the measurements in the data base are stack tests (*i.e.*, unlike for mercury and THC, these are not averaged values).[9] Virtually all kilns in the MACT floor pool are meeting the HCl standard, although this is largely the result of setting the standard at a level reflecting analytic method quantitation limits.

Commenters presented virtually no quantified data that floor plants are unable to meet the standards. *See National Association of Metal Finishers* v. *EPA*, 719 F. 2d 624, 649 (3d Cir. 1983) (unquantified assertions are entitled to little if any weight). Rather, their comments (comment 2845 at Table 1, echoed by many other industry commenters) provided narrative descriptions purporting to demonstrate that floor plants would not be able to achieve the standards.[10] In those instances where commenters provided actual data on these plants' performance, EPA took the information into account in developing the final standards. Indeed, EPA adjusted all of the standards based on actual data presented. However, EPA is not willing to act on pure supposition and conjecture regarding variability, particularly in the face of record information indicating that not only all floor plants but a number of additional plants are already meeting the promulgated standards.

c. Mercury Limits for Kilns

i. Floor Determination. We proposed mercury emissions limits of 43 lb/million (MM) tons clinker for existing sources and 14 lb/MM tons clinker for new sources. The proposed floor was based on 30 days of data on all kiln inputs for 89 kilns. *See* 74 FR at 21142–43. For all kilns but the five equipped with wet scrubbers, emissions were assumed to equal the total mass of mercury fed to each kiln. Scrubber-equipped kilns were considered to emit all mercury minus an assumed amount representing the average performance of the wet scrubbers. For kilns that waste cement kiln dust (CKD), the mercury component of the CKD was subtracted from inputs to calculate emissions. *Id.* By conducting a total mass balance for mercury and then assuming that all mercury inputted is emitted (minus conservatively estimated removals for scrubber usage and dust wastage), EPA made a near worst case assumption as to kilns' mercury emission levels. The kilns were then ranked from best to worst based on the extrapolated mercury emissions, normalized to clinker production. EPA further proposed that no beyond the floor standard was appropriate for either existing or new sources. *Id.* at 21149.

Since proposal we received updated data on certain kilns' raw materials usage and mercury content[11] and used that data to revise our average mercury emissions estimates from the best performing kilns at proposal.[12] We have also revised upward the floor kilns' projected emissions based on their reasonably estimated intra-quarry variability (explained further below). As a result, estimated emissions from these kilns increased, and one of the kilns in the group of sources used to set the existing source floor is no longer one of the best performing kilns. At proposal, the average mercury emissions of the top 12 percent of the kilns was 27.4 pounds per million (lb/MM) tons clinker, and the average emissions of the best performing source were 13.4 lb/MM ton clinker. After revising our mercury emissions estimates, the averages were 32 and 14 lb/MM tons clinker, respectively, as shown in Table 2.

TABLE 2—MERCURY MACT FLOOR

Kiln code	Mercury emissions (lb/MM ton feed)
1589	8.48
1650	9.53
1315	15.26
1302	15.28
1248	16.63
1259	21.33
1286	22.65
1594	25.23
1435	25.51
1484	25.51
1364	25.91
MACT—Existing Kilns	
Average: lb/MM tons feed (lb/MM tons clinker)	19.21 (31.7)
Total variance	272.3

[9] Development of The MACT Floors For The Final NESHAP For Portland Cement. August 6, 2010.

[10] For example, the commenter asserted, without providing support, that for the floor kilns the standards were "achieved in practice, but not under foreseeable operations"; "achieved in practice based on limited stack tests"; "data shows that proposed standard was not achieved in practice when malfunction emission [sic] are included in compliance determination" (although no such data were provided to EPA).

[11] *See* Portland Cement Association Comments on the NESHAP–Proposed Rule (Docket Number: EPA–HQ–OAR–2002–0051) (September 4, 2009) at pp. 31–35.

[12] Development of The MACT Floors For The Final NESHAP For Portland Cement, August 6, 2010.

TABLE 2—MERCURY MACT FLOOR—Continued

Kiln code	Mercury emissions (lb/MM ton feed)
UPL: lb/MM tons feed (lb/MM tons clinker) ..	32.8 (54.1)
MACT—New Kilns	
Average: lb/MM tons feed (lb/MM tons clinker)	8.48 (14.0)
Total variance	35.2
UPL: lb/MM tons feed (lb/MM tons clinker) ..	12.3 (20.3)

As noted above, we are taking into account operating variability of the best performing kilns, or in the case of new source MACT the single best controlled kiln, in assessing their performance (*i.e.*, both in determining which performers are best, and calculating what their performance is). When we calculated the UPL with 99 percent confidence for the best performing sources (or in the case of new source MACT the best controlled single source), we calculated a mercury floor of 55 lb/MM tons clinker for existing sources and 21 lb/MM tons clinker for new sources. We chose a 30-day averaging period for the mercury emission limit. As noted above, the use of a 30-day average (as opposed to hourly or daily averages) tends to reduce variability, and also best reflects the nature of the data from which the floor was derived and assures that several operating cycles of raw mill on and off are included in each average. *Id.* at 21144.

Industry commenters stated that we should account for additional sources of variability in this floor determination, namely intra-quarry variability and variability of the mercury content in local coals which kilns could utilize. As explained below, beyond those situations where commenters documented that sources actually used inputs with greater mercury content than used during the 30-day test period (*see* note 11 above), or where further intra-quarry mercury variability could reasonably be estimated, we did not do so.

EPA is of course aware that limestone quarries are immense, and are customarily used from periods of 50 to 100 years. Taking the average of 30 days of sampling data from one part of the quarry would not necessarily encompass all of the different mercury levels throughout the quarry.

Although industry commenters originally raised the issue of long term intra-quarry variability during the initial May 2007 30-day data collection, no plant chose to perform additional sampling and analysis of their raw materials and feed that would have allowed this issue to be directly addressed. Certain industry commenters did point, however, to data from the 30-day sampling effort as providing useful information on potential intra-quarry mercury variability of the two best performers. The data come from 30-day sampling conducted at four sources (three of which are located at a single facility), which all quarry limestone from a common geologic limestone formation.[13] All six kilns (the two floor kilns, and the other four kilns in the immediate vicinity) are in the same city and within 9 miles of each other. It is a reasonable assumption that variability of mercury levels (as opposed to mercury levels themselves) across this formation are substantially the same and therefore that the variability of mercury levels in the two best performers' quarries can be adjusted to reflect the variability seen in the other quarries which are part of the common geologic formation. *See Brick MACT,* 479 F. 3d at 881–882 (EPA may look at performance of sources which are not among the best in estimating variability of best performers if there is a demonstrated relationship between the two).

EPA further applied these estimates of intra-quarry variability to the mercury data for the other best performing kilns (*i.e.*, applied the same RSD to the other best performing sources). EPA did so to more robustly characterize long-term variability of these sources' quarries' mercury levels. The fact that intra-quarry variability of the two lowest emitting sources increased somewhat after examination with other quarries in the common geologic formation confirms that there can be further variability. Since the intra-quarry variability comes from quarries servicing the two lowest emitting kilns, EPA would not expect intra-quarry variability to be lower for the other best performing sources. In no other instance did commenters provide data that we could use to determine intra-quarry variability for kilns in the MACT floor pool.[14]

Commenters also maintained that because cement kilns can burn different types of coal, variability of coal mercury content needs to be factored into estimates of sources' performance. Commenters maintained that they obtained coal from a "local market" and so might eventually use any coal from that market. The comments did not further link coal to individual mines or to other particularized sources. Commenters appear to be asking for an upward adjustment of the MACT floors based on coal they might potentially use but never had used. EPA believes that allowing for any inputs that might conceivably be used in the future, including from sources in an area which a source has never used to date, goes beyond a reasonable estimate of performance over time and invites inflated estimates of variability based only on hypothesized possibilities, not on actual behavior.[15] EPA not only does not believe such methodology is a reasonable means of calculating sources' achieved performance, but also believes that such an approach creates a perverse incentive to build in compliance margins based on seeking out more polluted inputs.

For example, the price of lower mercury coal may increase as a result of this rule (it may be more desirable as a means of keeping mercury emissions low), so plants may seek out higher mercury coal which they otherwise have never used. This type of volitional activity does not seem to be within the ambit of normal variability of process inputs. In addition, facilities do have choices for coal. As noted in the comments, some facilities obtain coals from several States, while others appear to limit themselves to more local areas. However, coal is a commodity that can be transported long distances to fuel utility boilers. Therefore, we believe that a facility should have sufficient coals available that they would not be compelled to use a higher mercury coal just because it happens to be near the plant.

ii. Decision Regarding Whether To Create a Subcategory Based on Limestone Mercury Content

EPA may create subcategories which distinguish among "classes, types, and sizes of sources." CAA section 112(d)(1). EPA reads this provision to provide the Agency with discretion to subcategorize,

[13] Memorandum. Intra-quarry Variability Estimate, July 21, 2010.

[14] For example, one industry commenter submitted core (unground, unprocessed) samples from its quarry which samples differed in mercury content by approximately one order of magnitude. This facility is not a best performer, the samples are single measurements (rather than 30-day measurements or some longer duration), and (unlike the 30-day measurements used as the basis for the standard) have not been processed (*i.e.*, passed through the quarry crushers and mixed in the storage pile which would tend to make the material more homogeneous). Therefore, these data are not comparable to the data used to set the MACT floors.

[15] The situation differs from use of limestone from a proprietary quarry. Not only have sources used the quarry in the past but will necessarily continue to do so in the future.

and EPA may exercise that discretion if sources are rationally distinguishable due to some difference in class, type or size. *See Lignite Energy Council* v. *EPA*, 198 F. 3d 930, 933 (DC Cir. 1999) ("EPA is not required by law to subcategorize—section 111[b][2] merely states that 'the Administrator *may* distinguish among classes, types, and sizes within categories of new sources' " (emphasis original)). Moreover, as we noted at proposal, "normally, any basis for subcategorizing must be related to an effect on emissions, rather than to some difference among sources which does not affect emissions performance." 74 FR at 21145. EPA may also exercise this discretion on a pollutant-specific basis, since the difference in class, type or size may only have practical significance for certain HAP. In this final rule, EPA carefully considered the possibility of creating different subcategories of cement kilns with respect to mercury emissions.

The subcategorization possibilities for mercury which we considered and rejected at rule proposal were the type of kiln, presence of an inline raw mill, practice of wasting cement kiln dust, total mercury inputs, or geographic location. *See* 74 FR 21144–21145. We likewise reject these bases in this final rules for the reasons already stated.

At proposal we also considered subcategorizing by the mercury concentration of the limestone in the kiln's proprietary quarry. We did not propose to create this type of subcategory, and also choose not to do so in this final rule.

As we explained at proposal, the facts do not indicate sharp disparities in limestone mercury content that readily differentiate among types of sources for most of the facilities for which we have data, and thus do not support this subcategorization approach for the majority of the facilities. *See* Figure 1 showing a gradual continuum of mercury concentrations in limestone for all but two outlying plants.

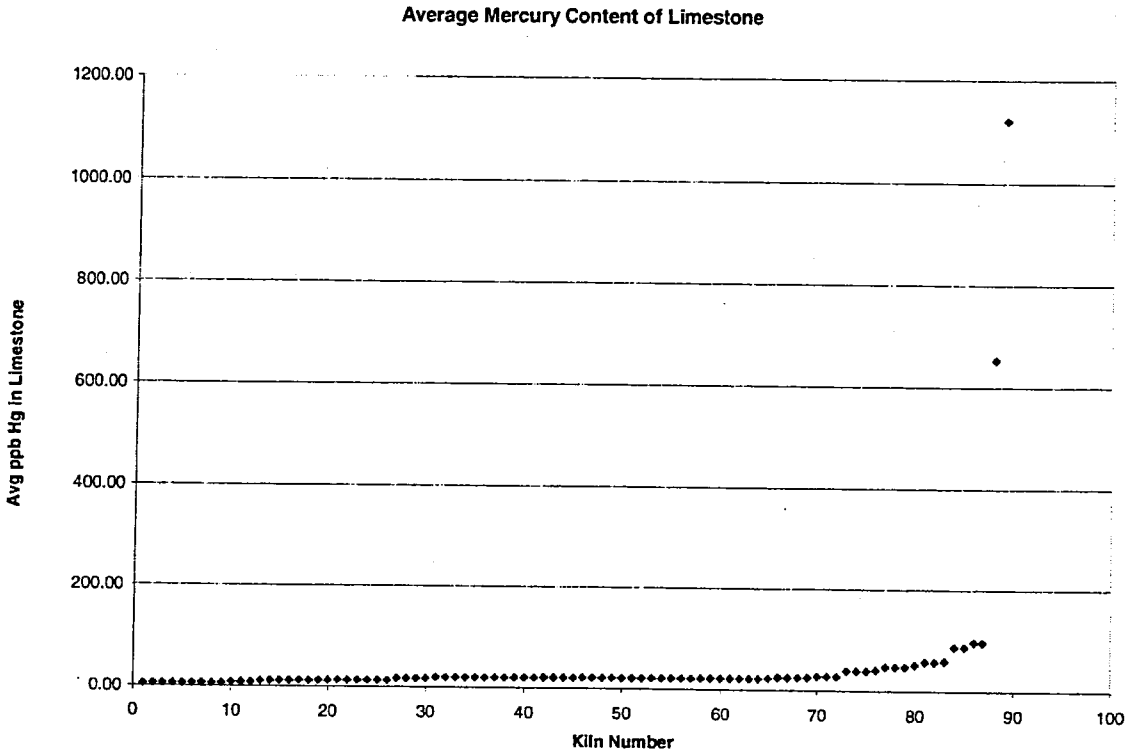


Figure 1. Average Mercury Concentration of Limestone

Industry commenters who supported creating a separate subcategory for the two highest mercury emitting sources based on limestone mercury content agreed with this assessment. Thus, EPA sees no technical justification to subcategorize by limestone quarry mercury content for the majority of the source category.

However, as also shown in Figure 1, there is a sharp disparity for two kilns which have the highest quarry mercury contents. These sources' mercury emissions are also disproportionately higher than all other cement kilns', and are related almost entirely to the limestone mercury content, not to mercury content of other inputs. Commenters who supported subcategorization by quarry mercury levels recommended that EPA create a separate source category for these two kilns based on their uniquely high quarry mercury contents.

If we were to set a separate subcategory for these two kilns, we determined that the floor level of control would be approximately 2100 lb/MM tons clinker. Due to the high level of this floor, we evaluated a beyond-the-floor option of 85 percent reduction in emission for the highest emitting kiln. This level would represent the highest level of mercury control believed achievable for the highest emitting facility based on test data on a pilot mercury control system for that facility.[16] This level of control would result in an emissions limit of

[16] Letter, C. Lesslie, Ash Grove Cement to P. Tsirigotis, U.S. EPA, April 22, 2010.

approximately 500 lb/MM tons clinker. This level is over 10 times the level that will be required for all other kilns, and even exceeds every other kiln's uncontrolled mercury emissions levels which range from 20 to 400 lb/MM tons clinker.

Mercury in the air eventually settles into water or onto land where it can be washed into water. Once deposited, certain microorganisms can change it into methylmercury, a highly toxic form that builds up in fish, shellfish and animals that eat fish. Fish and shellfish are the main sources of methylmercury exposure to humans. Methylmercury builds up more in some types of fish and shellfish than in others. The levels of methylmercury in fish and shellfish depend on what they eat, how long they live and how high they are in the food chain. Mercury exposure at high levels can harm the brain, heart, kidneys, lungs, and immune system of people of all ages. Research shows that most people's fish consumption does not cause a health concern. However, it has been demonstrated that high levels of methylmercury in the bloodstream of unborn babies and young children may harm the developing nervous system, making the child less able to think and learn.[17] Heightened concern for mercury's toxic effects is reflected directly in the structure of section 112 of the Act. Mercury is one of the pollutants identified for MACT-level control under the CAA's air toxics provision even (in most instances) when emitted by area sources (*see* CAA section 112(c)(6)).

Thus, creating a high-mercury subcategory for two kilns based on limestone mercury content would result in standards allowing emissions of 500 lb/MM tons of clinker. Based on 2008 production rates, this would allow 1,020 pounds of mercury emissions per year from the potential two-plant subcategory. To put this in perspective, the rest of the industry (92 plants) would be allowed to emit 1,012 pounds tons of mercury per year (again based on 2008 production rates), and the two high-emitting plants would be allowed to emit 1,020 pounds per year. This would result in a doubling of mercury emissions from this source category after the application of MACT. Moreover, national mercury emissions for industrial sources are approximately 50 tpy.[18] That would mean that these two sources alone would constitute 1 percent of the industrial mercury emissions for the U.S. EPA believes it is a reasonable exercise of discretion not to create a subcategory, where, as here, doing so would allow on-going emissions of a disproportionately high volume of a high-toxicity pollutant.

Due to mercury's high toxicity and the extremely high mercury emissions that would result, the Administrator is thus not exercising her discretion to subcategorize in setting the final mercury emissions limit. In light of this decision, it is unnecessary for EPA to address the further question of whether subcategorizing by raw material content of proprietary quarries is permissible under section 112 of the Act.

Although the Agency has concluded that it is reasonable to set the same mercury standard for all cement kilns, we acknowledge the unique challenges that the highest emitting sources may face in meeting the reductions within the regulatory compliance timeline. In particular, as discussed at length above, the two highest emitting kilns—the kilns located in Durkee and Tehachapi—have unusually high levels of mercury in their proprietary limestone quarries, which, as typifies this sector, are located proximate to kiln operations. The mercury content of source material is the key factor in the high levels of emissions experienced at these kilns and a complicating consideration in their ability to achieve compliance in a timely manner.

We also recognize that this challenge presents a unique opportunity to achieve substantial reductions in this naturally occurring, persistent, and widespread contaminant in an amount and on a schedule that exceeds what will be required in the final rule. The Agency believes that the two sources in question may be able in the near term to install aggressive controls, including activated carbon injection, that would result in dramatic near term reductions in mercury emissions (as much as 90 percent or two tons of mercury emissions in the first two years of operation). If they were to do so, these sources would emit substantially less mercury in the next few years than the alternative of allowing these facilities to continue to emit at current levels for three additional years, as would otherwise be the case. This would be a very substantial reduction in emissions of this pollutant. Annual emissions of mercury from all sources (not just cement kilns) are estimated to be 50 tpy,[19] and emissions from the entire source category are approximately 7.5 tons per year,[20] so that a two ton reduction is a substantial reduction of mercury emissions.

We understand that one of the two high emitting kilns has already installed activated carbon injection, but that its performance could be further optimized. *See* 74 FR 21148. The other kiln would have to install activated carbon injection and both kilns would need to install dust shuttling. The net benefit to the environment and public health would extend a number of years beyond the MACT compliance deadline.

If the Durkee and Tehachapi kilns were willing to make a near term reduction (*e.g.*, 90 percent) in their mercury emissions significantly before the compliance date in the rule, the Agency would consider providing these kilns a compliance schedule that extends beyond the three to four years specified in this rule. The purpose of such an approach would be to provide a substantial net benefit to the environment; therefore ultimate compliance with the MACT standard would need to be by a date that ensures the long term emissions from these sources would be significantly lower than their emissions from meeting the standard on the schedule in the rule. Given the nature of mercury and the additional reductions that could be obtained, the Agency is interested in exploring this concept.

Finally, EPA notes that the same early reduction opportunities for mercury do not appear to exist for the rest of the Portland cement industry. It typically takes on the order of three years to install activated carbon injection technology. One of the high mercury plants has recently completed installation of ACI and has just commenced full scale operation of the kiln with ACI installed. The other kiln faces fewer installation barriers than other kilns. This is because the company has tested carbon injection and dust shuttling on one of its other kilns, and is already using dust shuttling to reduce emissions at another kiln, and is therefore better positioned to rapidly install controls after one year. To our knowledge, these circumstances are not applicable to the rest of the Portland cement source category, and could not even be duplicated at all the other facilities owned by these companies due to limitations in

[17] For more information *see http://www.epa.gov/mercury/about.htm.*

[18] Mercury Emission in the U.S. by Source Category 1990 to 1993, 2002, and 2005. *http://cfpub.epa.gov/eroe/index.cfm?fuseaction=detail.viewMidImg&ch=46&lShowInd=0&subtop=341&lv=list.listByChapter&r=188199.*

[19] Mercury Emission in the U.S. by Source Category 1990 to 1993, 2002, and 2005. *http://cfpub.epa.gov/eroe/index.cfm?fuseaction=detail.viewMidImg&ch=46&lShowInd=0&subtop=341&lv=list.listByChapter&r=188199.*

[20] Summary of Environmental And Cost Impacts For Final Portland Cement NESHAP And NSPS August 6, 2010.

infrastructure available to design and build these systems.

iii. Beyond the Floor Determinations for Mercury

We are basing the final mercury standard on the floor level of control. When we establish a beyond the floor standard we typically identify control techniques that have the ability to achieve an emissions limit more stringent than the MACT floor. Under these final amendments, most existing kilns would have to have installed both a wet scrubber and activated carbon injection (ACI) for control of mercury, HCl and THC.[21] To achieve further reductions in mercury beyond what can be achieved using wet scrubber and ACI in combination, the available options would include closing the kiln and relocating to a limestone quarry having lower mercury concentrations in the limestone, transporting low-mercury limestone in from long distances, switching other raw materials to lower the amount of limestone in the feed, wasting CKD, and installing additional add-on control devices. These options were discussed at proposal, and were rejected as either technically infeasible or not cost-effective. Consideration of non-air quality impacts and energy requirements do not change this conclusion. *See* 74 FR at 22249–50. We received no comments that would cause us to change that determination.

We did receive one comment from an environmental group requesting EPA explore fuel switching as a beyond the floor option. However, EPA thoroughly explored fuel switching as a control option in the 2006 rulemaking and determined that there were problems with fuel availability and the costs were prohibitive. *See* 70 FR 72340. EPA is not presently aware of facts that would justify a different approach in this final rule.

As a result of these analyses, we determined that, considering the technical feasibility and costs, there is no reasonable beyond the floor control option, and the final mercury emission limit is based on the MACT floor level of control.

c. THC Limits for Kilns and Raw Material Dryers

The limits for existing and new sources in this final rule apply to both area and major sources. As noted earlier, we have applied these limits to area sources consistent with CAA section 112(c)(6).

i. Floor Determination. EPA proposed THC emissions limits of 7 and 6 parts per million by volume dry (ppmvd) for existing and new sources respectively for both cement kilns and raw material dryers. The existing source standard was based on the performance of the best performing 12 percent of cement kilns for which we had THC CEMS data. At proposal we requested comment on the issue of whether or not we should base the existing source floor on the best performing five kilns, rather than on the best performing 12 percent (two kilns). Industry commenters supported the use of the best five kilns stating that this would be in keeping with what appeared to be the intent of Congress that five kilns should be the minimum number of sources on which to set an existing source floor. However, other commenters noted that a plain reading of the statute is that when the source category has 30 or more sources, the top performing 12 percent for which the Administrator has data must be used, even if this results in less than five facilities due to lack of available data. In this final rule we are reaffirming our decision at proposal to use the best performing 12 percent rather that the best performing five facilities because we believe this result to be unavoidably compelled by the literal language of the statute.

At proposal we set the emissions limit based on the 99th percentile of the available data. As a result of new data received after the comment period, we recalculated the averages of the kilns for which we had CEMS data and selected the best performing two kilns (12 percent of 15 total kilns) based on their average emissions. *See* Calculations of Floors for Final Portland Cement NESHAP dated August 6, 2010. Because these were large data sets (688 and 274 readings), we directly calculated the 99th percentile of the 30-day averages to determine the MACT floor which is 24 ppmvd.[22] This is shown in Table 3.

[21] Summary of Environmental and Cost Impacts of Proposed Revisions to Portland Cement NESHAP (40 CFR Part 63, subpart LLL), April 15, 2009.

[22] In other words, as noted above, EPA possesses sufficient THC data that it is not necessary to estimate variability by use of the UPL equation. Rather, variability is calculated directly from the THC data set comprised of the two lowest emitting sources.

Table 3. Summary of THC CEMS Data and MACT Floor

Kiln	Average (ppmvd at 7% O2, propane)	Number of readings	Kiln type	In-line raw mill
Kiln 1	4.7	668	Preheater/precalciner	yes
Kiln 2	5.7	274	Precalciner	yes
Existing Source Average	5.2			
Existing Source 99th percentile	24			
New Source Average	4.7			
New Source 99th percentile	24			

For new sources, we analyzed the data from the kiln with the lower numeric average to determine the 99th percentile of its performance. The result of this analysis was also a 24 ppmvd standard because this kiln had more variability (although a lower average performance) than the other kiln in the data set. This emission limit is based on a concentration measured dry, corrected to 7 percent oxygen and a 30-day average measured using a CEM.

ii. Additional THC data received too late to be considered in this rulemaking. In addition to the THC CEMS data just discussed, we received another set of THC CEMS data from the Portland Cement Association (PCA). These data were not submitted to EPA until mid-June 2010, virtually too late for any consideration, much less considered analysis. This set consisted of THC CEMS data collected over periods ranging from 31 to 90 days for additional kilns not in the data base discussed above, as well as additional data from some of the kilns already in our data base. These additional data increased the total number of kilns with THC CEMS data to 30 kilns. The PCA also provided a floor analysis on this data set and recommended THC emissions limits. The data set as presented by PCA is shown in Table 4.

TABLE 4—PORTLAND CEMENT ASSOCIATION: DETERMINATION OF SIZE OF BEST PERFORMING POOL FOR PROPOSED SUB-CATEGORIES FOR THC

[Mid-June 2010 data submission]

Sub category	Estimated U.S. population	Kilns for which data are available	Procedure for selecting pool of best performing kilns		
			Existing units		New units
			Rule	Pool size	
Major Non-Commingled Kilns	> 30	17	Best 12%	3	Best 1.
Major Commingled Kilns	< 30	7	Best 5	5	Best 1.
Area Kilns	< 30	6	Work Practices Standard.		

In this analysis, the PCA proposed two subcategories: Kilns where the coal preparation mill exhaust is comingled with the kiln exhaust, and kilns where the coal preparation mill has a separate stack. The PCA maintains that subcategories are needed because emissions for the coal preparation mill (which are believed to be chiefly methane from the coal) will, all other things being equal, elevate the THC emissions of the kiln exhaust. *See also* 74 FR at 21152. The PCA recommended floors are shown in Tables 5 and 6 below:

TABLE 5—ALTERNATIVE MACT FLOORS FOR THC MAJOR NON-COMMINGLED KILNS

	Existing units (ppm)	New units (ppm)
99th Percentile ..	30	11
99.9th Percentile	36	12

TABLE 6—ALTERNATIVE MACT FLOORS FOR THC MAJOR COMMINGLED KILNS

	Existing units (ppm)	New units (ppm)
99th Percentile ..	70	17
99.9th Percentile	80	20

However, the PCA MACT analysis suffers from one major deficiency because it excludes area sources from

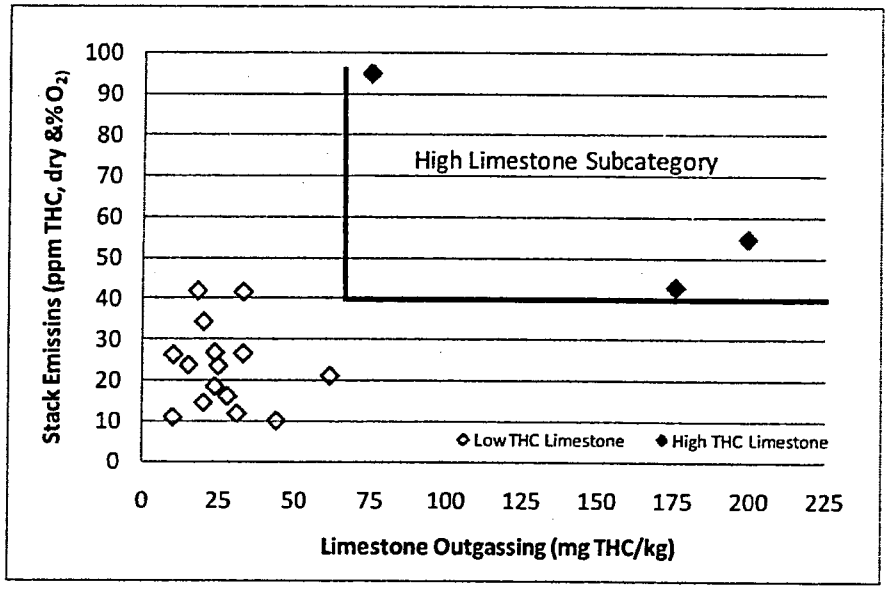
the MACT floor analysis, and assumes a work practice for these sources. As previously noted, THC emissions serve as surrogates for POM and PCB emissions. CAA section 112(c)(6) requires EPA to list, and to regulate under standards established pursuant to CAA section 112(d)(2) or (d)(4), categories of sources accounting for not less than 90 percent of emissions of these HAP standards established under CAA section 112(d)(2) must reflect the performance of MACT. Again, as explained above, EPA has long since determined that area source cement kilns' THC emissions must be controlled under CAA section 112 (d)(2) or (d)(4) in order to satisfy the 90 percent requirement. Therefore, these area sources should have been included in the MACT floor analysis.

If this error in the floor analysis is corrected, the MACT floor for the kilns with comingled exhaust would be unchanged from the PCA analysis of 70 ppmvd for existing and 17 ppmvd for new (assuming the statistical calculations were done correctly).

However, this estimate is premised on the assumption that there are less than 30 kilns in this subcategory (so that 5 sources would be used to establish the floor). That assumption is based on data provided in the PCA report that indicated, of the 87 kilns that provided data to PCA on their coal preparation stack configurations, 13 had comingled exhaust. If there are actually 30 or more kilns with this configuration, the MACT floor would have to be based on the best performing 12 percent of 8 kilns (the 7 major source comingled kilns plus one area source comingled kiln) which would be one kiln, Lehigh at Union Bridge. If one kiln is used for the existing source floor, the existing source MACT limit would be 17 ppmvd using the 99th percentile. The estimate of 26 versus 30 or more sources causes a high level of uncertainty in this analysis.

For sources that do not comingle the exhaust, the floor would appear to be approximately 13 ppmvd when the area sources are included in the analysis. This is also lower than the floor calculated from the long term data set out above (and would result in a standard roughly 50 percent more stringent than that which EPA is adopting).

The PCA analysis also recommended a separate subcategory for kilns with high limestone outgassing based on the information shown below:



The limestone outgassing factor is determined by heating a sample of the limestone from the kiln's proprietary quarry to determine the potential for THC emissions based on the amount and types of organic materials present. The premise here is basically the same as previously discussed for subcategorization by limestone mercury content when setting mercury emissions limits, because the kiln is tied to its limestone quarry. The subcategory proposed was for sources with THC outgassing ≥ 65 mg/kg. The recommended THC emissions limits for this subcategory were 170 and 62 ppmvd for new and existing sources respectively. This analysis, however, suffers from the same defect previously discussed in that for a subcategory with only three sources where we have data, the best performing 12 percent would be one kiln, so the actual limit for new and existing would be 62 ppmvd. We rejected this option because it suffers from the same defects as subcategorization by limestone mercury content. First, the choice of high versus low organics appears arbitrary. A level between 75 and 175 could just as easily have been chosen. The selection of 65 appears to be an attempt to move the high THC emitting facility into a subcategory with a high limit. Second, subcategorizing in this manner could result in situations where a few facilities would be allowed to emit at levels well above the remainder of the sources in this source category. Third, although the two kilns with the highest outgassing limestone appear to be outliers (similar to the two facilities with unusually high limestone mercury contents), we do not have data on a majority of the kilns (as we do with mercury) and it is possible that if we had more data, the two facilities that appear to be outliers would be part of a gradual continuum, which would mean the level we chose to separate high and low outgassing limestone would be mistaken.

We also considered combining all the THC CEMS data (the more recent PCA data, data used at proposal, and data received during the comment period which would create a data set of 34 kilns). The results of this analysis was a floor (based on the 99th percentile of the data) of 24 ppmvd for existing sources (the same standard adopted in

the final rule) and 3 ppmvd for new sources (more stringent than the new source standard in the final rule). Given the short time available to review the PCA data, the uncertainty concerning the actual size of one of the subcategories, the fact that these data would not in our view significantly change the levels of the standard for most kilns, and the concerns we have with subcategorization by limestone organic outgassing potential, we conclude that there is no compelling reason to change our floor determination based on this new information, which again was submitted only days before the final rule requirements had to be determined in order to meet the court ordered deadline for this rule.

iii. Beyond the floor determination. At proposal we evaluated several practices and technologies that are available to cement kilns to control emissions of organic HAP at a level beyond the floor. 74 FR at 21152. These practices include raw materials substitution, ACI systems and limestone scrubber and regenerative thermal oxidizer (RTO). We rejected each of these alternatives based on technical limitations or poor cost-effectiveness. Consideration of non-air quality impacts and energy support this determination as well (RTOs in particular being associated with appreciable energy penalties). 74 FR at 21152. We received no comments that have caused us to change that proposed decision. Therefore, we are choosing the floor level of control for the final THC emissions limit.

iv. Standards for THC. We are establishing the emissions limit for THC at the floor level of control. In addition, because the final existing source standard will be more stringent than the new source standard of 50 ppmvd for greenfield new sources contained in the 1999 final rule, we are also removing the 50 ppmvd standard for both kilns and raw material dryers.

EPA proposed an alternative floor for non-dioxin organic HAP, based on measuring the organic HAP itself rather than the THC surrogate. This equivalent alternative limit would provide additional flexibility in determining compliance, and it would be appropriate for those cases in which methane and ethane comprise a disproportionately high amount of the organic compounds in the feed because these non-HAP compounds could be emitted and would be measured as THC. At proposal we determined that organic HAP averaged 24 percent of the THC. Since proposal we have reevaluated these data and recalculated an average organic HAP concentration of 35 percent. Based on this percentage, and the fact that the THC emission limit is now 24 ppmvd, we are promulgating an alternative organic HAP limit of 9 ppmvd, corrected to 7 percent oxygen (or 19 percent oxygen for raw material dryers), for new and existing sources. The specific organic compounds that will be measured to determine compliance with the alternative to the THC limit are benzene, toluene, styrene, xylene (ortho-, meta-, and para-), acetaldehyde, formaldehyde, and naphthalene. These were the organic HAP species that were measured along with THC in the cement kiln emissions tests that were reviewed. Nearly all of these organic HAP species also were identified in an earlier analysis of the organic HAP concentrations in THC in which the average concentration of organic HAP in THC was 35 percent.[23]

The alternative standard will be based on organic HAP average concentration of organic HAP in THC was 35 percent.[24] The alternative standard will be based on organic HAP emission testing and concurrent THC CEMS measurements that will establish a site specific THC limit that will demonstrate compliance with the total organic HAP limit. The site specific THC limit will be measured as a 30 day rolling average.

iv. THC Emissions from Raw Material Dryers. As we noted at proposal, some plants may dry their raw materials in separate dryers prior to or during grinding. *See* 74 FR at 21153; *see also* 63 FR at 14204. This drying process can potentially lead to organic HAP and THC emissions in a manner analogous to the release of organic HAP and THC emissions from kilns when hot kiln gas contacts incoming feed materials. The methods available for reducing THC emissions (and organic HAP) is the same technology described for reducing THC emissions from kilns and in-line kiln/raw mills. Based on the similarity of the emissions source and controls, we proposed to set the THC emissions limit of materials dryers at the same levels as the kilns.

Commenters noted that stand alone raw materials dryers have higher gas flows relative to the amounts of fuels burned. This results in higher oxygen concentrations, typically as high as 19 percent. They also noted that raw material dryers may have higher THC and lower HAP emissions because raw materials dryers operate at lower temperature than kilns (since the dryer only needs to operate at the temperature needed to remove free water), and that the residence times for dryers is considerably longer than for kilns.

However, although we agree that the exhaust oxygen contents of raw material dryers may be higher than occurs with a cement kiln, there are reasons to believe that dryers actually emit less hydrocarbons than kilns. Operating at lower temperatures, we would expect any hydrocarbons that are emitted from dryers to be only those with the highest volatility, and therefore that the potential for emissions of organic HAP would be less for dryers than for kilns. However, the longer residence times could tend to increase emissions. Therefore, making any conclusions on the emission of dryers relative to kilns is difficult. We also note that we are allowing dryers to also use the alternative organic HAP emissions limit, so if the surmise that organic HAP emissions are low relative to the cement kilns is correct, this alternative should be very viable for these sources.

In short, we received no data indicating that the same limit as for kilns was infeasible, or that would otherwise allow us to set a different THC emissions limit for raw materials dryers. Therefore, in these final amendments we are setting the THC emissions limit at the same level as the cement kiln's, which is 24 ppmvd measured as propane.

However, because raw material dryers have high oxygen contents due to their inherent operation characteristics (and not due to the addition of dilution air), referencing the raw material dryer standard to 7 percent oxygen would actually result in a more stringent standard than for cement kilns. For example, given the typical oxygen contents of kiln exhaust (7 to 12 percent), a kiln just meeting the THC limit of 24 ppmvd would have an actual stack measurement of approximately 16 to 24 ppmvd. If the raw material dryer standard is referenced to the same oxygen level, they would have to meet a measured THC limit of approximately 3 ppmvd. For this reason, we are referencing the oxygen level of the standard for raw materials dryers to 19 percent oxygen, which is the typical oxygen level found in the exhaust of these devices.

d. Hydrochloric Acid Emissions From Kilns

In the proposed rule we based the proposed HCl emission limit for major sources on HCl data measured at 27 kilns using Method 321. The data in ppmvd corrected to 7 percent oxygen (O_2) were ranked by emissions level and the top 12 percent (4 kilns) lowest emitting kilns identified as best

[23] Summary of Organic HAP Test Data. August 6, 2010.

[24] Ibid.

performing existing sources. The calculated MACT floors were 2 ppmvd and 0.1 ppmvd respectively.

i. Floor Determination. Subsequent to proposal, we received comments that indicated we had inappropriately (albeit inadvertently) included certain natural area sources in the MACT floor analysis. We have removed those natural area sources from the floor analysis. In addition, many of the source tests were not actually EPA Method 321 tests; others lacked important quality assurance information. As a result, we issued letters under CAA section 114 authority requiring facilities that were major sources and that had previously submitted data to retest their facilities. We used this new data set to calculate a MACT floor. The data from the best performing three sources, as determined by average emissions during the test, are shown below in Table 7.

TABLE 7—HCL MACT FLOOR

Kiln	HCl emissions (ppmvd at 7% O_2)
1	0.34
2	0.44
3	0.46
MACT—Existing	
Average (Top 3)	0.41
Variance	0.02
UPL	0.52
MACT—New	
Average	0.34
Variance	0.0
UPL	0.34

However, these measurements are very close to the detection limit for analytic method 321 actually calculated in the field for HCl—from 0.2 to 0.3 parts per million by volume (ppmv) as measured in the stack.[25] The expected measurement imprecision for an emissions value occurring at or near the method detection level is in fact about 40 to 50 percent. This large measure of analytic uncertainty decreases as measured values increase: Pollutant measurement imprecision decreases to a consistent relative 10 to 15 percent for values measured at a level about three times the method detection level. *See* American Society of Mechanical Engineers, *Reference Method Accuracy and Precision (ReMAP): Phase 1, Precision of Manual Stack Emission Measurements,* CRTD Vol. 60, February 2001. Thus, if the value equal to three times the representative method detection level were greater than the calculated floor emissions limit, we would conclude that the calculated floor emissions limit does not account entirely for measurement variability.

That is the case here with HCl. The calculated standard (not accounting for the inherent analytical variability in the measurements) is 0.52 ppm (*see* Table 7 above). In order to account for measurement variability, we multiplied the highest reported minimum detection level for the analytic method by a factor of three which results in a level of 0.9 ppmv. This represents the lowest level that can be reliably measured using this test method, and we therefore believe that it is the lowest level we can set as the MACT limit taking the appropriate measurement variability into account. Converting this level to a dry basis at 7 percent oxygen results in a floor of 3 ppmvd for both new and existing sources. As explained further below, we are using a CEM to measure this standard, and it is a 30-day average.

ii. Beyond the Floor Determination. At proposal we examined the use of a packed bed scrubber, which was assumed to have a higher HCl removal efficiency than the spray tower limestone scrubbers typically used in this industry. Considering the high costs, high cost-effectiveness and small additional emissions reduction (and adverse cross-media impacts), we did not believe that a beyond-the-floor standard for HCl is justified. We received no comment that would change that decision. In addition, the current HCl floor limit is actually set at the lowest level we believe can be accurately quantified by the applicable test method. Therefore, a lower standard could not be reliably quantified. For these reasons we selected the floor level of control as MACT for HCl for major sources.

iii. Compliance Mechanisms. As proposed, kilns equipped with wet scrubbers may demonstrate compliance by means of stack testing at intervals of 30 months, plus utilize continuous monitoring of specified parameters. All other kilns are required to use a CEMS, with compliance based on a 30-day rolling average. Although the underlying data were obtained via stack tests, rather than with continuous monitors, EPA believes that because the HCl standard is established at a level higher than all measured values (to account for the inability to reliably measure any lower standard) and measured based on 30-day averages, it provides an ample compliance margin.

iv. Determination not to Establish a Risk-Based Standard for HCl. At proposal, EPA elected not to exercise its discretion under CAA section 112(d)(4) and proposed a major source standard for HCl based on MACT. The primary basis for not setting a health-based standard was that setting a MACT standard for HCl not only controlled HCl but also co-controlled other HAP (such as HF, Chlorine (Cl_2), and hydrogen cyanide (HCN)) and criteria pollutants yielding very substantial environmental benefits. However, we also requested comment on whether we had the legal authority to establish a standard for HCl, and, if so, whether we should exercise our discretion to do so. 74 FR at 21154. After considering comments, EPA has decided not to exercise its discretion to establish a risk-based standard for HCl under CAA section 112(d)(4), opting instead to promulgate a standard for HCl based on the performance of MACT in this final rule. This section discusses the basis for that decision.

Setting technology-based MACT standards for HCl will result in significant reductions in emissions of other pollutants, most notably SO_2, and would likely also result in additional reductions in emissions of mercury, along with condensable PM, ammonia, and semi-volatile compounds. The additional reductions of SO_2 alone attributable to the MACT standard for HCl are estimated to be 124,000 tons per year in the third year following promulgation of the proposed HCl standard. These are substantial reductions with substantial public health benefits. SO_2 emissions are associated with a variety of human health, ecosystem, and visibility effects. 75 FR at 35525–27 (June 22, 2010). Even more significantly, SO_2 is also a precursor to $PM_{2.5}$. Reducing SO_2 emissions also reduces $PM_{2.5}$ formation, human exposure, and the incidence of $PM_{2.5}$-related health effects, among them premature mortality and cardiovascular and respiratory morbidity. *See* detailed discussion of $PM_{2.5}$ health effects in the text at Table 13 below.

For these rules the SO_2 reductions represent a large fraction of the total monetized benefits from reducing $PM_{2.5}$, but it is not possible to isolate the portion if the total monetized benefits attributable to the emission reductions of SO_2 resulting from the application of HCl controls. The benefits models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type.

[25] Memorandum. EPA Method 321 Detection Limits and Minimum Quantification Limit, July 26, 2010.

We estimate the number of premature mortalities avoided each year due to the reductions in $PM_{2.5}$ exposure attributable to this standard to be in the thousands. RIA Table 6–3. We also estimate there to be over 2800 instances of annual cardiovascular and respiratory morbidity cases avoided, and hundreds of thousands of work loss days avoided. *Id.* The monetized benefits just from premature mortality avoided attributable to $PM_{2.5}$ reductions from this standard are estimated to be $7.4 billion to $18 billion at the three percent discount rate and $6.7 billion to $17 billion at a seven percent discount rate, nearly an order of magnitude higher than the rule's estimated social costs. *See* Table 13 below. Although MACT standards may directly regulate only HAPs and not criteria pollutants, Congress did recognize, in the legislative history to section 112(d)(4), that MACT standards would have the collateral benefit of controlling criteria pollutants as well and viewed this as an important benefit of the air toxics program.[26] The EPA believes these health and environmental benefits to be large and important and fully in keeping with the paramount goal of the Clean Air Act "to protect and enhance the quality of the Nation's air" (CAA section 101(b)(1)), and so is adopting MACT standards for HCl.[27]

Commenters from industry urged EPA to retain a risk-based standard but did not challenge EPA's finding or quantification that there would be these enormous health and environmental benefits to setting a standard reflecting MACT to control HCl. The commenters nonetheless urged EPA to retain a risk-based standard, noting that EPA had done so in the predecessor to this rule and for other source categories, and that HCl is a threshold pollutant within the meaning of CAA section 112(d)(4) so that there is a technical basis for such a standard. These arguments do not persuade the Agency to forego the very significant benefits just outlined. However, even if (contrary to the analysis just set out) EPA were inclined to adopt a risk-based standard here, there would be technical obstacles to doing so, as described at the final part of this section.

As we noted in the proposed rule, as a general matter, CAA section 112(d) requires MACT standards at least as stringent as the MACT floor to be set for all HAP emitted from major sources. However, CAA section 112(d)(4) provides that for HAP with established health thresholds, EPA has the discretionary authority to consider such health thresholds with an ample margin of safety when establishing emission standards under CAA section 112(d). This provision is intended to allow EPA to establish emission standards other than technology-based MACT standards in cases where a less stringent emission standard will still ensure that the health threshold will not be exceeded, with an ample margin of safety. In order to exercise this discretion, EPA must first conclude that the HAP at issue has an established health threshold and must then provide for an ample margin of safety when considering the health threshold to set an emission standard. We discussed this issue at length in the recent proposed Industrial Boiler MACT. *See* 75 FR at 32020–33 (June 4, 2010) (declining to propose a risk-based standard for HCl emissions).

The legislative history of section 112(d)(4) indicates that Congress did not intend for this provision to provide a mechanism for EPA to delay issuance of emission standards for sources of HAPs. The legislative history also indicates that a health-based emission limit under section 112(d)(4) should be set at the level at which no observable effects occur, with an ample margin of safety. S. Rep. 101–228 at 171–72. The legislative history further states that employing a section 112(d)(4) standard rather than a conventional MACT standard "shall not result in adverse environmental effects which would otherwise be reduced or eliminated." *Id.*

It is clear that EPA may exercise its discretionary authority under 112(d)(4) only with respect to pollutants with an established health threshold. Where there is an established threshold, EPA has, in the proposed rule on industrial boilers, interpreted section 112(d)(4) to allow us to weigh additional factors, beyond any established health threshold, in making a judgment whether to set a standard for a specific pollutant based on the threshold, or instead follow the traditional path of developing a MACT standard after determining a MACT floor (75 FR 32030). In deciding whether to exercise its discretion for a threshold pollutant for a given source category, EPA has interpreted section 112(d)(4) to allow us to take into account factors such as the following: The potential for cumulative adverse health effects due to concurrent exposure to other HAPs with similar biological endpoints, from either the same or other source categories, where the concentration of the threshold pollutant emitted from the given source category is below the threshold; the potential impacts on ecosystems of releases of the pollutant; and reductions in criteria pollutant emissions and other co-benefits that would be achieved via the MACT standard—the decisive factor here. Each of these factors is directly relevant to the health and environmental outcomes at which section 112 of the Clean Air Act is fundamentally aimed. If EPA does determine that it is appropriate to set a standard based on a health threshold, we must develop emission standards that will ensure the public will not be exposed to levels of the pertinent HAP in excess of the health threshold, with an ample margin of safety.

Since any emission standard under section 112(d)(4) must consider the established health threshold level, with an ample margin of safety, in this rulemaking EPA has considered the adverse health effects of the HAP acid gases, beginning with HCl. Research indicates that HCl is associated with chronic respiratory toxicity. In the case of HCl, this means that chronic inhalation of HCl can cause tissue damage in humans. Among other things, it is corrosive to mucous membranes and can cause damage to eyes, nose, throat, and the upper respiratory tract as well as pulmonary edema, bronchitis, gastritis, and dermatitis. Considering this respiratory toxicity, EPA has established a chronic reference concentration (RfC) for the inhalation of HCl of 20 $\mu g/m^3$. (*See http://www.epa.gov/ncea/iris/subst/0396.htm.*) An RfC is defined as an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups[28]) that is likely to be without an appreciable risk of deleterious effects during a lifetime. The IRIS health assessment evaluated chronic non-cancer risks and did not include an evaluation of carcinogenic effects (on which there are very limited studies). As a reference value for a single pollutant, RfCs do not reflect any

[26] *See* S. Rep. No. 101–228, 101st Cong. 1st sess. at 172. EPA consequently does not accept the argument that it cannot consider reductions of criteria pollutants in determining whether to exercise its discretion to adopt a risk-based standard under section 112(d)(4). There appears to be no valid reason that EPA must ignore controls which further the health and environmental outcomes at which section 112(d) of the Act is fundamentally aimed.

[27] We further note that HCl is not the only acid gas HAP emitted by Portland cement plants. Hydrogen fluoride, HCN, ammonia, and chlorine may also present and were not accounted for in the risk analysis. Setting an HCl standard under 112(d)(2) and (3) allows the Agency to also address these other HAPs as they are co-controlled by wet scrubbers along with HCl.

[28] "Sensitive subgroups" may refer to particular life stages, such as children or the elderly, or to those with particular medical conditions, such as asthmatics.

potential cumulative or synergistic effects of an individual's exposure to multiple HAPs or to a combination of HAPs and criteria pollutants. Similarly, an RfC evaluation does not focus on potential environmental impacts.

With respect to the potential health effects of HCl, we know the following:

1. Chronic exposure to concentrations at or below the RfC is not expected to cause chronic respiratory effects;

2. Little research has been conducted on its carcinogenicity. The one occupational study of which we are aware found no evidence of carcinogenicity;

3. There is a significant body of scientific literature addressing the health effects of acute exposure to HCl (California Office of Health Hazard Assessment, 2008. Acute Toxicity Summary for Hydrogen Chloride, *http://www.oehha.ca.gov/air/hot_spots/2008/AppendixD2_final.pdf#page=112* EPA, 2001). However, we currently lack information on the peak short-term emissions of HCl from cement kilns which might allow us to determine whether a chronic health-based emission standard for HCl would ensure that acute exposures will not pose health concerns.

4. We are aware of no studies explicitly addressing the toxicity of mixtures of HCl with other respiratory irritants. However, many of the other HAPs (and criteria pollutants) emitted by cement kilns also are respiratory irritants, and in the absence of information on interactions, EPA assumes an additive cumulative effect (Supplementary Guidance for Conducting Health Risk Assessment of Chemical Mixtures. *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=20533*).

Cement kilns also emit other acid gases along with HCl, including chlorine (Cl_2), HCN and hydrogen fluoride (HF), all of which are HAPs. Like HCl, these HAP gases have established chronic health thresholds below which they are not expected to pose any significant risk of chronic respiratory effects, have no evidence to suggest that they may pose carcinogenic effects, and have an established body of literature regarding acute respiratory health effects. They are also controlled during the process of controlling HCl emissions from cement kilns using a wet scrubber. As such, their health impacts must be taken into account when considering a health-based emission limit for HCl.

In the 2006 final rule, EPA did not set any standard for HCl.[29] The Agency reasoned that no further control was necessary for Portland cement emissions of HCl because HCl is a "health threshold pollutant" and human health is protected with an ample margin of safety at current HCl emission levels. 71 FR at 76527. Underlying this conclusion was EPA's analysis of a tiered screening study of dispersion modeling of cement facilities' worst-case and actual HCl emissions. This study was conducted by the Portland Cement Association for about two-thirds of operating U.S. cement plants. Dispersion modeling results were evaluated against the RfC for HCl.[30] The screening analysis involved making conservative assumptions regarding HCl emission concentrations and plants' operating conditions (greater concentrations than known to be emitted and perpetual operation at maximum capacity). All plants in the analysis, with five exceptions, had HCl levels well below a Hazard Quotient (HQ) level of 1.0, the ratio of exposure (or modeled concentration) to the health reference value or threshold level. The remaining five plants in the analysis had HQ levels greater than 1.0 assuming maximum emissions, but less than 1.0 when their actual emissions were used in the dispersion models. *Id.* at 76528–29.

At proposal of these amendments, recognizing that the 2006 determination was deficient, if for no other reason because it failed to establish any emission standard whatever, EPA conducted its own analysis to determine what numerical standard for HCl would be necessary to at least assure that, for the sources in the controlled category or subcategory, persons exposed to emissions of HCl would not experience the adverse health effects on which the threshold is based. In order to determine this level, in the proposed rule we conducted a risk analysis of the same 68 facilities analyzed by PCA using a screening level dispersion model (AERSCREEN). Using the site specific stack parameters provided by the PCA and conservative meteorological conditions (taken from the PCA analysis), the AERSCREEN modeling predicted the highest long term ground level concentration surrounding each facility, and used this concentration to back calculate the highest allowable HCl emissions rate that could occur without exceeding the allowable RfC. The results of this analysis indicated that an HCl emission limit of 23 ppmv or less (an order of magnitude higher than the MACT standard) would result in no exceedances of the RfC for HCl for any of the facilities assessed.[31]

Based on further consideration, EPA now believes that the 2006 PCA study and analysis has the following deficiencies. First of all, not all cement plants were evaluated (the PCA study covered about two thirds of the plants in the source category), and among those not evaluated were cement plants with the most likelihood of posing risk at ground level from HCl emissions due to use of positive pressure baghouses with monovents or multiple short stacks. Secondly, the analysis did not consider the impacts of the co-emitted acid gases, an important consideration in determining an ample margin of safety. In addition, no data were provided, nor do we have data, on other pollutants in the vicinity of these cement facilities, or background concentration data for HCl to determine cumulative impacts of HCl emissions for these facilities.[32] EPA's analysis of 2009 could not improve on the PCA study, given the lack of robust emissions data for Cl_2, HF, and HCN, and the lack of any additional data for the cement kilns not included in the original study. As a result, EPA cannot ensure that the resulting derivation of 23 ppmv as a possible health-based emission standard for HCl would result in chronic ambient levels of acid gases that would not pose significant health risks. EPA has no data that would allow us to extend that analysis to cover all acid gases and all facilities.

In addition to potential health impacts, EPA has evaluated the potential for environmental impacts when considering whether to exercise discretion under section 112(d)(4). When HCl gas encounters water in the

[29] Although the decision not to set a standard in 2006 was based on the authority of section 112(d)(4), we note that the statute in fact states: "the Administrator may consider such threshold level, with an ample margin of safety, *when establishing emission standards* under this subsection." Section 112(d)(4), emphasis added.

[30] In the previous study EPA also evaluated dispersion modeling results against an acute exposure guideline level (AEGL) below which acute effects would not be expected to occur. However, even given the uncertainties mentioned for short term HCl emissions, that analysis indicated that chronic effects would be of the most concern.

[31] Derivation of a Health-Based Stack Gas Concentration Limit for HCl in Support of the National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry, April 10, 2009.

[32] It should be noted that large amounts of site-specific information both on kiln operation and local meteorological information is needed to obtain meaningful results from AERSCREEN and other dispersion models. This information is in the ready possession of the industrial sources themselves, but for unknown reasons, was not provided by industry to EPA either as part of the 2006 PCA analysis or in response to subsequent data solicitations by EPA.

atmosphere, it forms an acidic solution of HCl. In areas where the deposition of acids derived from emissions of sulfur and nitrogen oxides are causing aquatic and/or terrestrial acidification, with accompanying ecological impacts, the deposition of HCl could exacerbate these impacts. Being mindful of the explicit legislative history, and in keeping with past EPA practice, it is appropriate to consider potential adverse environmental effects in addition to adverse health effects when setting an emission standard for HCl under section 112(d)(4). The co-emissions of HF, HCN, and Cl_2 from cement kilns could serve to further aggravate these environmental acidification impacts, but EPA has no data to determine these impacts.

Although the PCA analysis did not include an assessment of potential environmental effects, for the 2006 final Portland cement rule, EPA conducted its own analysis of potential effects of cement kilns' HCl emissions to wildlife, aquatic life, and other natural resources. The Agency concluded at the time that acute and chronic exposures to expected HCl concentration around cement kilns are not expected to result in adverse environmental toxicity effects. *Id.* at 76529. EPA accordingly declined to establish any standard for HCl.

At this time, we now believe the ecological risk analysis performed in 2006 is insufficient, as it was merely a literature review and not a formal ecological assessment, and, as discussed in the previous paragraphs, it did not cover the impacts of the other acid gases, nor did it cover about one third of the existing cement plants. No additional information was provided during the comment period which addressed these various technical issues, notwithstanding EPA's solicitation of data.

Consequently, although EPA is declining to adopt a section 112(d)(4) risk-based standard for HCl emissions from Portland cement facilities for the sound policy reasons discussed herein, we further note that there remain technical issues as to the appropriateness of such a standard even if EPA were inclined to exercise that discretion. We also do not view ourselves as bound by the technical determinations made in the 2006 rulemaking for the reasons just explained.

EPA also has concluded that the facts here are distinguishable from those in other rulemakings in which it exercised its discretionary authority under section 112(d)(4). In the case of the Pulp and Paper MACT (63 FR at 18765 (April 15, 1998)), the risk analysis indicated, at the 95 percent confidence interval, that the maximum concentration predicted to which people were estimated to be exposed was 0.3 g/m_3, 60 times less than the inhalation reference concentration. This is a much lower value than present in the Portland cement risk analysis discussed above. In the case of the Lime Manufacturing NESHAP (67 FR at 78054 (Dec. 20, 2002)), there are two key distinctions. First, the technical information available to EPA covered 100 percent of all lime kilns in the U.S., which is not the case for the Portland cement risk analysis. Second, EPA did a worst case analysis as a supplement to the industry analysis and determined that the highest hazard index under that scenario was 0.21. Based on the EPA analysis determining a health based limit for Portland cement, if we were to allow the same level of risk as we determined in Lime NESHAP analysis, the health based emission limit would be 2 ppmvd, which is almost the same level as the MACT standard we are finalizing in this action.

EPA also considers the alternative standard for total chlorine in the Hazardous Waste Combustor MACT (70 FR at 59555 (Oct. 12, 2005)) to be distinguishable. That rule, under the authority of section 112(d)(4) establishes a site-specific risk-based standard for total chlorine (of which HCl is the largest component), whereby, in lieu of meeting the MACT standard, sources may emit total chlorine at higher levels if they demonstrate that their emissions of total chlorine from all hazardous waste combustor sources at a facility do not exceed both acute (one-hour) and chronic (annual) exposure thresholds. The demonstration must account for all relevant site-specific conditions, or be based on worst-case screening assumptions. If sources satisfy these criteria, the amount of their total chlorine emissions is still capped by the technology-based limit to which these sources were previously subject. The site-specific demonstrations, applicability to all combustor sources at a facility, use of acute and chronic health benchmarks, and capping of emission limits are all unique to that rule.

e. PM Emissions From Kilns

Particulate matter serves as a surrogate for non-volatile metal HAP (a determination upheld for this source category in *National Lime Ass'n,* 233 F. 3d at 637–39). Existing and new major sources are presently subject to a PM limit of 0.3 lb/ton of feed which is equivalent to 0.5 lb/ton clinker. EPA is amending this standard for major sources, and also adding PM standards for existing and new area source cement kilns. In all instances, EPA is revising these limits because they do not represent MACT, but rather a level which is achievable by the bulk of the industry. *See* 63 FR at 14198 (March 24, 1998); *see also* 233 F. 3d at 633 (indicating that the standards for PM were likely legally deficient but that the argument had not been properly preserved for the court to adjudicate). This is not legally permissible. *Brick MACT,* 479 F. 3d at 880–81. EPA thus does not accept the argument of some commenters that EPA may only amend promulgated MACT standards by means of the periodic review procedures of section 112(d)(6), which does not include re-determining floor levels. Section 112(d)(6)does not indicate that it is the exclusive means of amending MACT standards, and in particular does not speak to a situation where an original floor was palpably short of statutory requirements and where that floor became the ultimate standard. EPA consequently believes it has discretion to reconsider and redo the MACT floor analysis for PM, and to amend the standard as appropriate.

Other commenters suggested that even if EPA has such discretion, it would (or should) be limited to a reanalysis of the original database for the 1999 rule and so should not consider kilns' subsequent performance. Were EPA to take that approach here, the floor (and standard) for PM would be more stringent than the floor (and standard) in this rule.[33] Because EPA considers the database for the current rule to be more representative of performance capabilities of best performing kilns than the sparser 1999 database, EPA is basing its determination on the more representative data.

EPA is setting a PM standard based on MACT for existing and new area source cement kilns. As noted at proposal, Portland cement kilns are a listed area source category for urban HAP metals pursuant to section 112(c)(3), and control of these metal HAP emissions (via the standard for the PM metal surrogate) is required to ensure that area sources representing 90 percent of the area source emissions of urban metal HAP are subject to section 112 control, as required by section 112(c)(3). EPA has determined that this standard should reflect MACT, rather than GACT, because there is no essential difference between area source and major source cement kilns with respect to emissions

[33] Calculation of PM MACT Floor Based on Data in 1998 Proposal. July 7, 2010.

of either HAP metals or PM. Thus, the factors that determine whether a cement kiln is major or area are typically a function of the source's HCl or formaldehyde emissions, rather than its emissions of HAP metals. As a result, there are kilns that are physically quite large that are area sources, and kilns that are small that are major sources. Both large and small kilns have similar HAP metal and PM emissions characteristics and controls.

Given that EPA is developing major and area source standards for PM at the same time in this rulemaking, a common control strategy consequently appears warranted for these emissions. We thus have included all cement kilns in the floor calculations for the final PM standard, and have developed common PM limits based on MACT for both major and area sources.

i. *Floor Determination.* At proposal we had compiled PM stack test data for 45 kilns from the period 1998 to 2007. EPA ranked the data by emissions level and the lowest emitting 12 percent, 6 kilns, was used to develop the proposed existing source MACT floors of 0.085 and 0.08 lb/ton clinker for new and existing sources respectively.

Commenters noted that we had omitted some of the data already submitted to EPA in developing the MACT floor. In addition, we noted for two of the best performing facilities we had only one emissions test. Therefore we requested these sources to submit additional PM emission test data and the source sent two additional PM emissions tests for each kiln to allow us to better characterize emissions variability. We modified the PM data base to reflect these submissions. Another change made since proposal is that we have changed the compliance requirement to require a PM CEMS. This requires that we establish an averaging period. We chose a period of 30 days (rolling average) to be consistent with requirements for mercury and THC, and because PM emissions on a lb/ton basis are affected by raw mill cycles (typically encompassed within 30-days, *see* 74 FR at 21144) for kilns with in-line raw mills. We have converted the concentrations obtained from 3-hour tests into 30-day values by means of the UPL equation previously described. It should be noted that due to the longer averaging periods, the actual limit will be a lower number compared to the shorter compliance interval in the proposed rule (30 days versus a three hour test). This damping of variability when a longer averaging period is used is well established where continuous monitors have been used to measure emissions, and is also accounted for in the "m" term of the UPL equation. The results of the new MACT analysis are shown in Table 8.

TABLE 8—PM MACT FLOOR

Kiln	PM emissions (lb/ton clinker)
1	0.01
2	0.01
3	0.01
4	0.03
5	0.04
6	0.04
MACT—Existing	
Average	0.02
Variance	0.001
UPL	0.04
MACT—New	
Average	0.01
Variance	0.00001
UPL	0.01

EPA proposed use of PM CEMS as an alternative to using a bag leak detector, and also solicited comment on requiring their use generally. 74 FR at 21157. As we noted there, performance specifications for PM CEMS are now available, and continuous monitors "give a far better measure of sources' performance over time than periodic stack tests". After considering the public comments, EPA continues to believe that this is the case. *See also* further discussion of this issue at Section A.3 of this preamble below.

EPA does not agree with the comment that use of a CEM renders the standard more stringent and so results in floors (and standards) more stringent than those achieved by average of the best performing sources. First, the continuous collection of data used to assess compliance with this standard does not create a limit more stringent that otherwise allowed. As discussed in the preamble to the Credible Evidence Rule, "* * * continuous monitoring of the standards (has) no effect on the stringency of the standard * * *" (62 FR at 8326, February 24, 1997).

Further, a statistically-based adjustment to account for emissions variability, and which, in this case, increases the numerical value of the standard (and its longer averaging period) by fifty percent, does not make the standard more stringent. Finally, increasing the averaging period beyond the duration associated with conducting a performance test (typically three hours) to 30 days normally makes a standard more lenient because there is more opportunity to average out individual results. As mentioned in the description of the Salo and Pederson memoranda cited in Section 4.1.2.1 of the Credible Evidence Rule Response to Comment Document, "* * * (t)he effect of the change from a 3-hour averaging time to a 30-day averaging time is to make the standard more lenient * * *".[34]

ii. Beyond the Floor Determination.

EPA did not propose beyond-the-floor standards for PM. This was because the cost effectiveness of adopting beyond-the-floor controls was several orders of magnitude greater than EPA has accepted for PM reductions in other rules where standards allow consideration of costs, and because the incremental amount of PM removed was very small (3 tpy nationwide). Consideration of non-air quality issues did not change this conclusion. 74 FR at 21155. Commenters did not challenge this analysis. EPA accordingly is not adopting beyond-the-floor standards for PM.

The final PM emissions limit for existing sources is 0.04 pounds per ton (lb/ton) clinker for and 0.01 lb/tons clinker for new sources (30-day average). Kilns where the clinker cooler gas is combined with the kiln exhaust and sent to a single control device for energy efficiency purposes (*i.e.*, to extract heat from the clinker cooler exhaust) will be allowed to adjust the PM standard to an equivalent level accounting for the increased gas flow due to combining of kiln and clinker cooler exhaust (an action for which EPA received no adverse comment). *See* 74 FR at 21156 and 73 FR at 64090–91 (Oct. 28, 2008) (explaining the equivalency of this standard and the energy efficiency benefits resulting from combining these gas flows). The PM standard is a 30-day rolling average and is measured with a CEM.

iii. Compliance Alternative for Comingled Kiln/Clinker Cooler Exhaust.

As we noted at proposal, some kilns combine the clinker cooler gas with the kiln exhaust and send the combined emissions to a single control device. There are significant energy savings (and attendant greenhouse gas emission reductions) associated with this practice, since heat can be extracted from the clinker cooler exhaust. However, there need to be different conversion factors from concentration to mass per unit clinker in these cases to allow for the increased gas flow, which result in a different PM emissions limit. We proposed adjustment factors that would account for these differences and create a site specific PM emission limit

[34] Available at *http://www.epa.gov/ttncaaa1/t1/fr_notices/certcfin.pdf.*

of this situation. *See* 74 FR 21155–56 and 21184. We received no comments on these factors and are thus adopting them as proposed, except that the factors have been changed to account for changes in the underlying kiln and clinker cooler emissions limits. Note that adjustments would also be necessary for kilns subject to the NSPS PM limit. Thus, we are including a cross reference for the NSPS to the appropriate section of the NESHAP rule.

f. Opacity Standards for Kilns and Clinker Coolers

We are removing all opacity standards for kilns and clinker coolers because these sources will be required to monitor compliance with the PM emissions limits by more accurate means. Although some commenters requested retention of opacity as a backup standard, and others as an alternative, none of these comments offered any convincing information or other justification for perpetuating a less reliable compliance methodology. Though we have preserved some regulation text, any kiln or clinker cooler that uses a PM CEMS to monitor compliance with the PM emission limit is exempt from opacity standards.

g. PM Standard for Clinker Coolers

In addition to amending the PM standard for kilns we are similarly amending the PM emissions limit for clinker coolers. Fabric filters are the usual control for both cement kilns and clinker coolers. As EPA noted in our proposed revision to the NSPS (73 FR 34078, June 16, 2008), we believe that the current clinker cooler controls can meet the same level of PM control that can be met by the cement kiln. No commenter challenged this. One commenter did state that PM limits for clinker coolers should not be changed, but we disagree with that comment for the reasons previously discussed on the PM limit for kilns. Therefore, we are setting the same PM emissions limits and compliance requirements for both clinker coolers and kilns.

h. Standards for Open Clinker Piles

At proposal we noted that open clinker piles were currently unregulated, and that hexavalent chromium emissions had been detected in fugitive dust from these piles. *See* 74 FR at 21163. We requested comment and information as to how common the practice of open clinker storage is, appropriate ways to detect or measure fugitive emissions (ranging from open-path techniques to continuous digital or intermittent manual visible emissions techniques), any measurements of emissions of hexavalent chromium (or other HAP) from these open storage piles, potential controls to reduce emissions, or any other factors we should consider.

Commenters did not provide data on this practice. Industry commenters stated emission were *de minimis* and should not be regulated. Other commenters noted that the fact that we know these sources emit HAP is sufficient to necessitate regulation.

We agree that these operations do emit HAP and that regulation of these sources is necessary. *See National Lime,* 233 F. 3d at 640 (upholding EPA position that de minimis exceptions are not to be read into the MACT standard setting process). Because the emissions in question are fugitive dust for which measurement is not feasible since (by definition) the emissions are not emitted through a conveyance or other device which allows their measurement (*see* section 112 (h)(1) and (2)(A)), we are adopting the work practice standards and opacity emissions limits contained in Rule 1156 as amended by the South Coast Air Quality Management District on March 6, 2009 and incorporating them into this rule. There are only two plants which EPA can state definitively have open storage piles and are complying with Rule 1156, so these existing regulatory standards would constitute a floor level of control (and EPA does not believe beyond-the-floor controls are needed, since utilizing some type of enclosure should well control fugitive emissions). A summary of the requirements are as follows:

If clinker material storage and handling activities occur more than 1,000 feet from the facility property-line,

- Utilize a three-sided barrier with roof, provided the open side is covered with a wind fence material of a maximum 20 percent porosity, allowing a removable opening for vehicle access. The removable wind fence for vehicle access may be removed only during minor or routine maintenance activities, the creation or reclamation of outside storage piles, the importation of clinker from outside the facility, and reclamation of plant clean-up materials. The removable opening shall be less than 50 percent of the total surface area of the wind fence and the amount of time shall be minimized to the extent feasible;
- Storage and handling of material that is immediately adjacent to the three-sided barrier due to space limitations inside the structure shall be contained within an area next to the structure with a wind fence on at least two sides, with at least a 5 foot freeboard above the top of the storage pile to provide wind sheltering, and shall be completely covered with an impervious tarp, revealing only the active disturbed portion during material loading and unloading activities;
- Storage and handling of other active clinker material shall be conducted within an area surrounded on three sides by a barrier or wind fences with one side of the wind fence facing the prevailing wind and at least a 5-foot freeboard above the top of the storage pile to provide wind sheltering. The clinker shall remain completely covered at all times with an impervious tarp, revealing only the active disturbed portion during material loading and unloading activities. The barrier or wind fence shall extend at least 20 feet beyond the active portion of the material at all times; and
- Inactive clinker material may be alternatively stored using a continuous and impervious tarp, covered at all times, provided records are kept demonstrating the inactive status of such stored material.

• If clinker material storage and handling activities occur 1,000 feet or less from the facility property-line these activities must be in an enclosed storage area.

In the SCAQMD regulation, there are different requirements for active vs. inactive open clinker piles. An inactive pile is one that had not been disturbed for 30 consecutive days. In addition, the ACAQMD rule has different requirements for clinker piles that are 1,000 feet or less form the facility property-line. This 1000 foot criterion was a mutually agreed number among the stakeholders (both industry and environmental groups) involved in developing the regulation.[35] Given the lack of additional data, we saw no reason to change these criterion. More information on this rule is available at *http://www.aqmd.gov/hb/gb_cal95.html.*

Industry commenters also maintained that regulation of open storage piles would violate a 2001 settlement agreement between EPA and the industry in which EPA agreed that the 1999 rule did not apply to fugitive emission sources. But nothing in that settlement agreement prevents EPA from amending its regulations if it is appropriate to do so (nor could EPA legally bind itself in such a way). The agreement in fact states that "[n]othing in this Agreement shall be construed to limit or modify EPA's discretion to alter, amend, or revise, or to promulgate regulations that supersede, the

[35] Telecon with Tuyet-Le Pham, South Coast Air Quality Management District. June 29, 2010.

regulations identified in section III of this Agreement." Consequently, EPA's action today properly amends the current regulation, and does not violate any provisions of the settlement agreement.

i. Format of the Normalized Standards in the NESHAP and the NSPS

Emission limits are typically normalized to some type of production or raw material input value because this allows comparison (and ultimately the ability to set a single standard) for different sized facilities. As we noted at the NSPS proposal, the current NSPS and limits (and NESHAP limits before today's amendments) for PM are expressed on a pound of PM per ton (lb/ton) of dry feed input format. *See* 73 FR at 34075–76. In this final NESHAP (and NSPS) we are adopting a new normalizing parameter of lb/ton of clinker—*i.e.*, normalizing based on kiln output rather than input for both PM and mercury.

We noted at proposal of the NSPS that adopting an output-based standard avoids rewarding a source for becoming less efficient, *i.e.*, requiring more feed to produce a unit of product, therefore promoting the most efficient production processes. 73 FR at 34076. EPA therefore proposed that all of the NSPS (for PM, NO_x, and SO_2) be normalized by ton of clinker produced, and later proposed the same parameter for the two standards in the NESHAP which are normalized, mercury and PM. 73 FR at 34076; 74 FR at 21140.

In this final NESHAP (and NSPS) we are therefore adopting a new normalizing parameter of lb/ton of clinker—*i.e.* normalizing based on kiln output rather than input—for mercury and PM in the NESHAP, and for PM, NO_x, and SO_2 in the NSPS. Commenters either supported this proposal, or did not question that normalizing by output promotes more efficient production. However, commenters from industry raised technical objections and concerns to the proposal. They maintained that the measurement of kiln output is not as exact as the measurement of kiln input, and that many kilns have not installed clinker measuring equipment. These objections do not necessitate normalizing by inputs. Most commenters also stated that kiln feed could be accurately measured and also indicated that most facilities currently derive reasonable feed-to-clinker conversion factors from these measurements. Kilns already calculate clinker production in this way when required to meet emissions limits normalized by clinker production, as many NSR and PSD permits for cement kilns presently do.[36]

Since it appears from comments that the equipment to accurately measure clinker is not typically installed in this industry, we must assume these facilities use a feed-to-clinker conversion factor to calculate clinker production on whatever time basis is necessary (*e.g.*, daily, hourly, *etc.*). Therefore, we have modified the rule language to more clearly provide the option allowing facilities to measure feed inputs and to use their site specific feed/clinker ratio to calculate clinker production (and to make clear that no prior approval from a regulatory authority is necessary to do so). Facilities would be allowed to use a constant feed/clinker ratio in accord with their usual cycles for determining such ratios, typically on a monthly basis when clinker inventories are reconciled.

Commenters were nonetheless concerned that because clinker/feed ratios change somewhat and are only re-determined at the end of a cycle, a slight change in clinker/feed ratio, determined at the end of the cycle, could show lack of compliance without even an opportunity to alter operation. To obviate this legitimate concern, the rule provides that facilities are not required to retroactively update clinker production estimates after recomputing feed/clinker ratios. We would not expect that the clinker/feed ratio will change significantly from month to month, so we do not see this as creating a situation where facilities will be able to have large amounts of excess emissions but still be considered in compliance (especially since the 30-day standards are all rolling averages).

So, for these reasons above we are adopting emission limits normalized by kiln output for PM in both the NESHAP and the NSPS, for mercury in the NESHAP, and for NO_X and SO_2 in the NSPS (the same analysis applying to the limits in the NSPS).

2. What are the final operating limits under subpart LLL?

EPA is eliminating the restriction, adopted in the 2006 rule, on the use of fly ash where the mercury content of the fly ash has been increased through the use of activated carbon once the kiln has complied with a numerical mercury emissions limit. Given the emission limitation for mercury, whereby kilns must continuously meet the mercury emission limits described above (including when using these materials) there does not appear to be a need for such a provision. This provision is removed once a kiln is in compliance with the mercury limitations adopted in this. We are removing the requirement at compliance, rather than when the rule takes effect, to prevent the possibility of additional mercury emissions between the rule's effective date and the required compliance date. However, once the rule takes effect EPA is removing the requirement to maintain the amount of cement kiln dust wasted during testing of a control device, and the provision requiring that kilns remove from the kiln system sufficient amounts of dust so as not to impair product quality for the same reasons. In this case, we do not see immediate removal of these provisions as creating a likelihood of increased mercury emissions prior to the compliance date.

3. What are the final testing and monitoring requirements under subpart LLL?

Kilns will be required to meet the following changed monitoring/testing requirements:

- CEMS (PS–12A) or sorbent trap monitors (PS–12B) to continuously measure mercury emissions, along with Procedure 5 for ongoing quality assurance.
- CEMS meeting the requirement of PS–8 to measure THC emissions for existing sources. (New sources are already required to monitor THC with such a CEMS). Kilns meeting the organic HAP alternative to the THC limit will still be required to continuously monitor THC (based on the results of THC monitoring done concurrently with the Method 320 test), and will also be required to test emissions using EPA Method 320 or ASTM D6348–03 every 30 months to identify the organic HAP component of their THC emissions.
- Installation and operation of a PM CEMS that meets the requirements of PS–11.
- CEMS meeting the requirements of PS–15 will be required to demonstrate compliance with the HCl standard for all kilns except those using a caustic scrubber. If a facility is using a caustic scrubber to meet the standard, EPA Test Method 321 and ongoing continuous parameter monitoring of the scrubber may be used in lieu of a CEMS to demonstrate compliance. The M321 test must be repeated every 30 months.

Raw material dryers that are existing sources will also be required to install and operate CEMS meeting the requirement of PS–8 to measure THC emissions. (New raw material dryer sources are already required to monitor THC with a CEMS). Raw material dryers

[36] RACT/BACT/LAER Clearing house Report for Portland Cement. November 25, 2009.

meeting the organic HAP alternative to the THC limit will still be required to continuously monitor THC (based on the results of THC monitoring done concurrently with the Method 320 test), and will also be required to test emissions using EPA Method 320 or ASTM D6348–03 every 30 months to identify the organic HAP component of their THC emissions.

New or reconstructed raw material dryers and raw or finish mills will be subject to longer Method 22 and, potentially, to longer Method 9 tests. The increase in test length duration is necessary to better reflect the operating characteristics of sources subject to the rule. EPA has included the costs associated with increased test duration in its estimates of the rule's costs.

The requirements above are the same as those proposed with the following exceptions.

For kilns and clinker coolers, EPA proposed to require bag leak detection systems for fabric filters and an ESP predictive model to monitor performance of an ESP. In this final rule we are requiring the use of a PM CEMS for all PM control devices. We did receive comments on technical issues associated with PM CEMS, which we have addressed in the Comments and Responses Document in the docket to this rulemaking. As explained earlier, we continue to believe that these devices provide the most positive indication that a facility is actually complying with the PM emissions limit. We also note that we promulgated a requirement for PM CEMS in the 1999 final rule but deferred the compliance date until the establishment of performance specifications. These specifications have now been established as EPA Performance Specification 11.

In the proposed rule we specified that THC CEMS must meet the requirements of performance specification 8A. Commenters correctly pointed out certain deficiencies of the 8A method as applied to this source category. In response to those comments we have changed the requirement to PS–8.

Where periodic performance tests are required for HCl we changed the test frequency to 30 months because a commenter noted both chlorine inputs and scrubber performance may change significantly over five years. For similar reasons we changed the testing frequency for the organic HAP option to 30 months. We believe aligning the test schedules for all pollutants (dioxin furan, organic HAP, and HCl) to the same testing schedule will allow for more efficient use of testing resources.

4. Standards for Startup and Shutdown

As noted above, the United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. *Sierra Club* v. *EPA*, 551 F.3d 1019 (DC Cir. 2008), *cert. denied*, 130 S. Ct. 1735 (U.S. 2010). Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), that are part of a regulation, commonly referred to as the "General Provisions Rule," that EPA promulgated under section 112 of the CAA. When incorporated into CAA section 112(d) regulations for specific source categories, these two provisions exempt sources from the requirement to comply with the otherwise applicable CAA section 112(d) emission standard during periods of SSM.

The effect of the vacatur is that the cross-reference to 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1) in Table 2 to subpart LLL no longer operates to incorporate an SSM exemption.

In light of the *Sierra Club* decision, EPA proposed to require that sources be in continuous compliance with emissions limits at all times, even during startup, shutdown, and malfunction. 74 FR at 21161–62. We proposed that these sources meet the same standards at all times. *Id.* We also specifically asked for information on emissions during startup, shutdown, and malfunction.

In these final amendments we have eliminated the cross-reference to the vacated General Provisions' exemptions contained in Table 1 of current subpart LLL. In establishing the standards in this rule, EPA has taken into account cement kilns' operating properties during startup and shutdown periods and, for the reasons explained below, has established different standards for those periods. EPA is not setting separate standards for malfunctions so that, for the reasons explained below, the standard that applies during normal operations applies during periods of malfunctions. We have also revised Table 2 (the General Provisions table) in several respects. For example, we have eliminated the General Provisions' requirement that the source develop an SSM plan. We have also removed certain recordkeeping and reporting requirements related to the SSM exemption. EPA has attempted to ensure that we have not incorporated into the regulatory text any provisions that are inappropriate, unnecessary, or redundant in the absence of the SSM exemption.

Startup is the period of time between when fuel is first introduced into a cement kiln that is not firing fuel, and when the kiln temperatures are within normal operating limits, the kiln is using its normal operating fuel, and the kiln is producing clinker. During kiln startup, fuel is first introduced into the kiln to raise the kiln to the appropriate operating temperatures. In the case of a cold start the fuel is typically a natural gas or distillate fuel. Once the kiln reaches certain temperatures, the normal operation fuel is introduced. After the kiln reaches stable operating temperatures, kiln feed is introduced in low amounts which are gradually increased. Because the kiln feed is a significant source of most kiln emissions (HAP and otherwise) we would consequently expect that kiln emissions, on a concentration basis, would not be any higher during startup than during normal operations, with any potential short-term emission spikes due to transient conditions or release of emissions from materials left in the kiln from the last operating period being accommodated through an averaging period. Indeed, on a pure concentration basis, kiln emissions over time would likely be lower than during normal operation given the lesser volume of inputs being processed, and (at startup) the cleaner fuel being used to heat the kiln to normal operating conditions.

Notwithstanding that stack concentrations over time would likely be the same or less than during normal operation, in some cases, the manner in which the standard is expressed is not appropriate during startup. Most particularly, the mercury and PM standards are normalized to kiln production (amount of pollutant allowed being linked to a ton of clinker produced). During startup, production is by definition either non-existent or very low. Even where there is a modest amount of production during startup, relationships between HAP concentration and amount of product are skewed so as to make this means of measurement inappropriate. In addition, normalized standards require accurate measurements of kiln volumetric flow rate (used to convert concentration into mass) and kiln flow rate, which changes in important ways from normal values during startup. When considered along with such phenomena as varying kiln stack moisture contents and flow rate, flow rate measurements are significantly less accurate during startup than during normal operation.

For these reasons, we are establishing standards for mercury and PM by converting the normal operation standards to a concentration basis.

These conversions are as follows: 55 lb mercury/MM tons clinker is equivalent to 10 micrograms per dry standard cubic meter (ug/dscm); 21 lb mercury/MM tons clinker is equivalent to 4 ug/dscm; 0.04 lb PM/ton clinker is equivalent to 0.004 grains per dry standard cubic foot (gr/dscf); and 0.01 lb PM/ton clinker is equivalent to 0.0008 gr/dscf. Mercury and PM would be measured during startup with a CEMS (as during normal operation) and the concentration standard would be met on the basis of 7-day averages. We do not believe a 30-day average is appropriate for these periods because they are of short duration, and it might take a period of 1 year or more to accumulate 30 days of startup operation. We considered an averaging period equal to the time period of each startup, but that would have meant different averaging periods for each event. Therefore, we chose 7 days as a period short enough to accumulate the data necessary to calculate the average over a reasonable period (certainly less than a year) but long enough to allow averaging out any transient spikes that may occur. In this way, short-term spikes which occur during startup would be averaged against the lower concentrations which otherwise typically maintained. A consequence of this compliance regime (as for the standards which apply during normal operation), is that a source (at least initially) cannot determine compliance based on any single startup (or shutdown) event. Seven days of data will need to be averaged.

All of the discussion above applies to THC emissions during startup: Feed (the main source of THC emissions) is introduced gradually so THC emissions should ordinarily be lower, cleaner fuels are initially used to heat the kiln to normal temperatures, *etc.* The difference is that the THC standard is already expressed as a concentration, so the measurement difficulties with a normalized standard do not exist. However, during normal operation the THC standard is corrected to a specified oxygen concentration to avoid the situation where a facility uses dilution air to lower the measured concentration. At startup, oxygen concentrations may be higher than during normal operation, and may also fluctuate more. This could have the effect of actually making the standard more stringent during startup. Consequently, EPA is adopting the same concentration standard for THC during startup as applies during normal operation, but is removing the oxygen concentration correction factor. The standard is measured with a CEMS and is based on a 7-day average so, that, again the lower concentrations which ordinarily maintain at startup should balance out any transient events that occur because the kiln is not yet in steady state mode.

HCl is also expressed as an un-normalized stack concentration corrected to a specific oxygen concentration. Where measured with a CEMS, EPA knows of no reason the same standard as applies during normal operation should not be met during startup, except that the averaging period would be 7 days and the oxygen correction factor would be removed for the reasons noted above. However, for those units equipped with wet scrubbers, sources may choose to demonstrate compliance by means of stack testing and parametric monitoring. *See* Section IV.A.3. In such a circumstance, there are no parameters to measure because HCl will not be emitted. This is because HCl is emitted only as kilns begin burning normal fuel, not the natural gas or distillate used as a fuel during startup. Consequently, EPA is providing that emissions of HCl shall be zero at all such times as distillate or natural gas is used to fire the kiln (and that is the parameter which would be measured).

The current standard for dioxins and furans is expressed either as a concentration, or a combination of concentration and temperature control at the inlet to the PM control device. Continuous compliance is determined based on demonstrating the measured temperature at the inlet to the PM control device does not exceed the limit established during dioxin compliance testing. This is because higher PM control inlet temperature can increase dioxin emissions. *See* 63 FR 14196, March 24, 1998. Based on a comment indicating that there can be an increase in short-term temperature fluctuations during startup (and shutdown), EPA is indicating in the startup standard that temperature measurements can increase by 10 percent during these periods.

Shutdown is the period of time between when kiln raw material feed is shutoff and gas flow through the kiln ceases. Shutdown operations are in many ways a mirror image of startup. During shutdown, the same transient conditions and low product production rates occur as during startup. Cement kilns cannot be immediately shut off. Even after the feed is stopped, gas flow must be continued through the kiln and the kiln continues to rotate to prevent kiln overheating and/or warping. Moreover, the concerns about inability to have normalized standards or standards with oxygen correction factors, air pollution control inlet temperature variability, and lack of measureable HCl emissions when the kiln is fired with distillate or natural gas and is not HCl CEM-equipped, all apply at shutdown for the same reasons as at startup. For this reason, we are setting the same limits for kilns during shutdown operations as during startup.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. In the proposed rule, EPA expressed the view that there are different modes of operation for any stationary source, and that these modes generally include startup, normal operations, shutdown, and malfunctions. 74 FR at 21162. However, after considering the issue of malfunctions more carefully, EPA believes that malfunctions are distinguishable from startup, shutdown and normal operations. Malfunction is defined as a "sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner * * *" (40 CFR 63.2). EPA has determined that malfunctions should not be viewed as a distinct operating mode or condition and, therefore, any emissions that occur at such times do not need to be factored into development of CAA section 112(d) standards, which, once promulgated, apply at all times. In *Mossville Environmental Action Now* v. *EPA,* 370 F.3d 1232, 1242 (DC Cir. 2004), the court upheld as reasonable standards that had factored in variability of emissions under all operating conditions. However, nothing in section 112(d) or in caselaw requires that EPA anticipate and account for the innumerable types of potential malfunction events in setting emission standards. *See, Weyerhaeuser* v *Costle,* 590 F.2d 1011, 1058 (DC Cir. 1978) ("In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation.")

Further, it is reasonable to interpret section 112(d) as not requiring EPA to account for malfunctions in setting emissions standards. For example, we note that Section 112 uses the concept of "best performing" sources in defining MACT, the level of stringency that major source standards must meet. Applying the concept of "best

performing" to a source that is malfunctioning presents significant difficulties. The goal of best performing sources is to operate in such a way as to avoid malfunctions of their units.

Moreover, even if malfunctions were considered a distinct operating mode, we believe it would be impracticable to take malfunctions into account in setting CAA section 112(d) standards for this (or any other) source category. As noted above, by definition, malfunctions are sudden and unexpected events and it would be difficult to set a standard that takes into account the myriad different types of malfunctions that can occur across all sources in the category. Moreover, malfunctions can vary in frequency, degree, and duration, further complicating standard setting.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event, EPA would, of course, determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. EPA would also consider whether the source's failure to comply with the CAA section 112(d) standard was, in fact, "sudden, infrequent, not reasonably preventable" and was not instead "caused in part by poor maintenance or careless operation." 40 CFR 63.2 (definition of malfunction).

In response to comments urging that EPA not apply the same standards to malfunctions as to normal operation, EPA recognizes that even equipment that is properly designed and maintained can sometimes fail and that such failure can sometimes cause (or in the case of 30-day averages, contribute to) an exceedance of the relevant emission standard. (*See, e.g.,* State Implementation Plans: Policy Regarding Excessive Emissions During Malfunctions, Startup, and Shutdown (Sept. 20, 1999); Policy on Excess Emissions During Startup, Shutdown, Maintenance, and Malfunctions (Feb. 15, 1983)). EPA is therefore adding to the final rule an affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions. *See* 40 CFR 63.1341 (defining "affirmative defense" to mean, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding). We also added other regulatory provisions to specify the elements that are necessary to establish this affirmative defense; the source must prove by a preponderance of the evidence that it has met all of the elements set forth in 63.1344. (*See* 40 CFR 22.24). The criteria ensure that the affirmative defense is available only where the event that causes an exceedance of the emission limit meets the narrow definition of malfunction in 40 CFR 63.2 (sudden, infrequent, not reasonable preventable and not caused by poor maintenance and or careless operation). The criteria also are designed to ensure that steps are taken to correct the malfunction, to minimize emissions in accordance with section 63.1348(d) and to prevent future malfunctions. In any judicial or administrative proceeding, the Administrator may challenge the assertion of the affirmative defense and, if the respondent has not met its burden of proving all of the requirements in the affirmative defense, appropriate penalties may be assessed in accordance with Section 113 of the Clean Air Act (*see also* 40 CFR Part 22.77).

5. What are EPA's final actions on compliance dates?

For existing sources we proposed a compliance date of 3 years after the promulgation of the new emission limits for mercury, THC, PM, and HCl to take effect. This is the maximum period allowed by law. *See* section 112(i)(3)(A). We continue to believe a 3 year compliance period is justified because most facilities will have to install emissions control devices (and in some cases multiple devices) to comply with the proposed emissions limits. Therefore, we have retained a 3 year compliance data in this final rule.

For new sources, the compliance date will be the effective date of this final rule or startup, whichever is later. Because this is a major rule as defined by the Congressional Review Act, the effective date of the rule is 60 days after publication of the **Federal Register**.

In determining the proposal date that determines if a source is existing or new, we have decided to select the proposal date of these final amendments, which is May 6, 2009, for all the standards.

At proposal, we considered three possible dates, including March 24, 1998; December 5, 2005; and the proposal date of these final amendments, which was May 6, 2009. As we noted at proposal, Section 112 (a)(4) of the Act states that a new source is a stationary source if "the construction or reconstruction of which is commenced after the Administrator first proposes regulations under this section establishing an emissions standard applicable to such source." "First proposes" could refer to the date EPA first proposes standards for the source category as a whole, or could refer to the date the agency first proposes standards under a particular rulemaking record or first proposes the particular standards at issue. The definition is also ambiguous with regard to whether it refers to a standard for the source as a whole, or to a HAP-specific standard (so that there could be different new source standards for different HAP which are regulated at different times).[37] At proposal we chose the date of December 5, 2005, as the proposal date that determines if a source is new or existing for the mercury, HCl, and THC, and the May 6, 2009, date for PM.

After consideration of comments on the selection of the date for mercury, THC, and HCl, we believe that the May 6, 2009, date for all pollutants is more in keeping with the evident intent of Section 112(a)(4) that source should have sufficient notice that new source controls requirements can be considered in the initial design. We accept commenters' argument that sources coming into existence between the proposed date of the 2006 standards and the May 6, 2009, proposal date of these amendments would have no reasonable means of ascertaining the standards' final content and so lacked notice of what controls and strategies to adopt. Since this is antithetical to the policy underlying new source standards, EPA is adopting May 6, 2009, as the date which determines if a source is existing or new.

We note that there are currently sources subject to new source limits for mercury and THC contained in the December 20, 2006, rule. However, the mercury the new source standards in this final rule are significantly different than the limits in the December 20, 2006, rule, and we do not see how the affected sources could have anticipated this change prior to proposal of these amendments. Accordingly, we have selected a date that allows these facilities to design and install the required control equipment.

[37] *See also* 74 FR at 21158 n. 41 citing other statutory provisions indicating that the phrase "first proposes" can have a number of meanings.

B. What are EPA's final actions on 40 CFR part 60, subpart F?

1. What are the final kiln and clinker cooler emissions limits under 40 CFR part 60, subpart F?

For "new" affected facilities constructed, modified, or reconstructed after June 16, 2008, the final emission limits amend the existing rules as follows:

- Change the format of the PM emission limits from lb/ton of dry feed to lb/ton of clinker product;
- Reduce the PM emission limit for kilns from 0.3 lb/ton of dry feed to 0.01 lb/ton of clinker;
- Set a limit on NO_X emissions from kilns of 1.50 lb/ton of clinker; and
- Set a limit on SO_2 emissions from kilns of 0.4 lb/ton of clinker, or, as an alternative, demonstrate a reduction in SO_2 emissions from the kiln of at least 90 percent; and
- Reduce the PM emissions limit for clinker coolers from 0.1 lb/ton dry feed to 0.01 lb/ton of clinker.

The emission limits for affected facilities constructed, modified, or reconstructed before June 16, 2008, remain unchanged in this subpart. The rationale for these actions is discussed below.

a. NO_X Limits for Kilns

EPA proposed an NO_X limit of 1.5 lb/ton of clinker based on application of Selective Non-Catalytic Reduction (SNCR) to a new precalciner kiln. At proposal we also considered a level of 1.95 lb/ton clinker based on the use of SNCR control technology, and a limit of 0.5 lb/ton clinker based on the use of selective catalytic reduction (SCR) technology.

After evaluation of the comments, we have decided to adopt the level of 1.5 lb/ton clinker in this final rule, as proposed. In general, commenters agreed with the selection of SNCR as the basis of the standard (*i.e.*, it represents the performance of BDT). However, there was disagreement over the appropriate emission limit that represents BDT.

Industry commenters requested a higher limit, claiming that site specific properties of raw materials could create a situation where application of SNCR technology to a well designed preheater/precalciner kiln could not achieve the level of 1.5 lb/ton clinker without high ammonia injection rates that would result in significant ammonia emissions. To support their arguments they noted that EPA based the 1.5 lb/ton clinker level on the assumption that a well designed new preheater/precalciner kiln could meet a level of 3.0 lb/ton clinker without SNCR, so that this 3.0 lb/ton clinker should be the baseline from which performance of SNCR is evaluated. 73 FR at 34079. They pointed to several newer kilns that had difficulty meeting a level of 3.0 lb/ton clinker without SNCR, and attributed this difficulty to "hard to burn" raw materials at certain sites.

We have rejected the industry argument that 1.5 lb/ton clinker is not achievable for all new kilns using SNCR technology for the following reasons. First, the commenters note some kilns without SNCR cannot meet an NO_X level of 3.0 lb/ton clinker. However, they did not provide the actual levels of NO_X emissions the sources were designed to meet. The NO_X emissions for a new preheater/precalciner kiln are primarily a function of precalciner design. Though two kilns may have the same basic precalciner design, certain site specific design parameters will also affect NO_X emissions. A precalciner designed to meet a level above 3.0 lb/ton clinker, will not necessarily be designed exactly the same way as one designed to meet 3.0 lb/ton clinker. We are also aware that there are kiln precalciner designs that were installed that do not represent best design. We thus do not believe that these kilns' performance alters the baseline from which performance of SNCR is evaluated. In addition, we have enough examples of new preheater/precalciner kilns in various locations in the country to indicate to us that an NO_X limit of 3.0 lb/ton clinker is generally achievable, regardless of location, if the precalciner is properly designed. For example, several kilns in Florida and a kiln in California have NO_X emissions below 2.0 lb/ton clinker with no add-on controls. According to our information, raw materials in Florida can be considered "hard to burn" because of the significantly different hardness of Florida limestone and silica (limestone being soft which create a fine grind, the silica being harder which creates a more coarse grind) creates problems with size distribution for the raw material necessitating more fuel use and higher kiln temperatures with a consequent increase in NO_X emissions. Additional test data for two plants with reported "hard to burn" mix were 1.89 and 2.4 lb/ton. Given these facts, we believe the assumption that a new kiln without add-on controls can meet a level of 3.0 lb/ton clinker over the long term is very reasonable and so should represent a baseline for application of SNCR performance. *See also* 73 FR at 34079 noting many other examples of kilns without end-of-stack controls burning hard-to-burn inputs meeting a level of 2.5 lb/ton of clinker.

Second, although we based our 1.5 lb/ton clinker level on an SNCR emission reduction of 50 percent, there are numerous examples of SNCR systems achieving emission reductions greater than 50 percent and as high as 80 percent or more. *Id.* These reductions were achieved without appreciable ammonia slip. So even if a new kiln were to emit at levels above 3.0 lb/ton clinker without end-of-stack controls, application of SNCR would allow such a kiln to meet the 1.5 lb/ton clinker level. For example, a new kiln emitting at 4.0 lb/ton clinker would only need an emission reduction of 63 percent to meet the 1.5 lb/ton clinker level for NO_X.

Finally, the NO_X limit is based on a 30-day averaging period to be consistent with the averaging periods for other regulated kiln pollutants, and to allow for averaging of raw mill on and off emissions. *See* 74 FR at 21144. Compared to other averaging options (hourly or daily), this longer averaging time allows additional operating flexibility to meet the limit.

Based on comments received, we also considered setting an NO_X limit lower than 1.5 lb/ton clinker based on performance of SNCR. However, we also rejected that option. We do have data that indicate that some cement kilns are below 1.5 lb/ton clinker, but we do not believe the current data support that any new kiln, regardless of location (and consequent raw material inputs), could meet a level that low.

At proposal we also considered an NO_X emissions level of 0.5 lb/ton clinker based on performance of SCR. We rejected that option because at that time we did not believe that SCR was sufficiently demonstrated technology for this industry. We are aware that there have been three cement kilns in Europe that have successfully used SCR, and that SCR technology is a demonstrated control technology for NO_X control for other source categories, such as utility boilers. We also are aware that that one domestic cement company has agreed to install SCR technology on one kiln as part of a settlement agreement. However, we continue to question if SCR technology would be effective at all locations where new kilns might be installed. The main concern is the potential for dust buildup on the catalyst, which can be influenced by site specific raw material characteristics present in the facility's proprietary quarry, such as trace contaminants that may produce a stickier particulate than is experienced at sites where the technology has been installed. This

buildup could reduce the effectiveness of the SCR technology, and make cleaning of the catalyst difficult resulting in kiln downtime and significant costs. We were unable to estimate these costs and did not include these costs in our overall cost estimates for SCR. For these reasons, we have not selected SCR technology as the basis of BDT. We will continue to follow this technology as it is applied in the U.S., and will reconsider this decision in the next review of this standard.

Kilns equipped with alkali bypasses cannot be expected to meet the NO_X limit for the portion of the exhaust that goes to bypass. Bypass gases are quickly cooled and do not remain at a temperature long enough to treat using an SNCR system. For that reason, we have revised the rule to clarify that for kilns with an alkali bypass, only the main kiln exhaust gases are subject to the NO_X limit. Because all kilns do not require an alkali bypass and the bypass gas stream is a small fraction of the total kiln exhaust gas flow, any additional NO_X emission resulting from this exclusion will be minimal.

b. SO_2 Limits for Kilns

EPA proposed an emissions limit of 1.33 lb/ton clinker or 90 percent emissions reduction SO_2 based on the performance of a limestone wet scrubber applied to a kiln with high sulfur raw materials. 73 FR at 34080. Commenters noted that this level was considerably above the level of many of the recent best available control technology (BACT) determinations, and was also above the level actually achieved by the facility EPA used as the basis of this proposed standard.

At the time EPA proposed the 1.33 lb/ton clinker limit, we also considered a limit of 0.4 lb/ton clinker based on the average of recent BACT determinations for cement kilns. We chose the higher limit at proposal because the 0.4 lb/ton limit would have resulted in new kilns with moderate sulfur content raw materials experiencing a cost per ton of SO_2 removed of $6,000. However, we have changed our proposed decision for two reasons. First, as a result of the NESHAP requirement to meet a HCl emissions level of 3 ppmvd, we estimate that all new kilns will have to install wet scrubbers for HCl control. *See* section VI below. Hence, the cost of meeting the 0.4 lb/ton clinker limit in the NSPS is minimal, only the cost of the SO_2 CEM. Second, since proposal we have revised our costs for dry lime injection, which is the most cost-effective control technology for controlling a moderate sulfur raw material kiln to the 0.4 lb/ton clinker level. Based on our revised information, the cost of meeting a 0.4 lb/ton clinker emission limit now ranges from $470 to $1430/ton SO_2 for a kiln with high or moderate sulfur raw materials, even if these costs are attributed to the NSPS rather than to the NESHAP. Kilns with low sulfur raw materials can meet the 0.4 lb/ton clinker level with no add-on controls. We consider these to be reasonable costs, comparable with other costs for SO_2 control EPA has deemed reasonable such as those in the Clean Air Interstate Rule. *See* 70 FR at 25201 (May 12, 2005). So, even if a new facility is able to meet the NESHAP HCl limit without any acid gas controls, the cost per ton to meet a 0.4 lb/ton SO_2 NSPS limit is still reasonable.

In the proposal, we considered a SO_2 emissions level of 0.2 lb/ton clinker. However, this level adds little environmental benefit beyond the 0.4 lb/ton limit, and for many facilities would not be achievable based on the use of wet scrubber technology, which means these facilities would opt for the 90 percent emission reduction alternative (discussed below). For these reasons, we did not choose this level as BDT.

We also proposed a 90 percent reduction as an alternative limit to the 1.33 lb/ton emissions limit. We are retaining this alternative in the final rule.[38] The alternative 90 percent reduction is to account for situations where the sulfur content of the raw materials is so high that, even with the most efficient SO_2 control, a kiln cannot meet the 0.4 lb/ton of clinker emissions limit. Design and performance data indicate the 90 percent control is continuously achievable for a well designed and operated wet scrubber.[39] Compliance with the 90 percent reduction would be determined by continuously monitoring SO_2 at the control device inlet and outlet. Continuous monitoring of SO_2 at the inlet and outlet is a positive demonstration that the standard is being continuously met.

c. PM Emissions Limits for Kilns and Clinker Coolers

We proposed a PM emissions limit of 0.86 lb/ton clinker based on fabric filters using membrane bags. This specific level was chosen because it is representative of the performance of this technology and was equivalent to the new source limit contained in the Hazardous Waste Combustor (HWC) NESHAP for cement kilns burning hazardous waste. This rationale is no longer applicable, since EPA is reassessing the PM limit in the HWC NESHAP. *See* USEPA Motion for Voluntary Remand in # 05–1441 (DC Circuit, August 29, 2008).

As previously discussed in section IV.A., in this action we are setting PM limits under the Portland Cement NESHAP of 0.04 lb/ton clinker for existing sources and 0.01 lb/ton clinker for new sources based on a 30 day rolling average. We project that new cement kilns meeting the 0.01 lb/ton clinker limit will be using the same technology which formed the basis of the proposed NSPS PM limit, namely fabric filters and membrane bags. It should also be noted that we estimate that many new facilities will need to install fabric filters in series as part of mercury controls. This means that a new kiln will install PM controls required to meet the 0.01 lb/ton limit in any case, so establishing the same limit for PM in the NSPS not only is technically justified, but has no cost. We also assessed the costs of installing and operating fabric filters with membrane bags at proposal, and found this to be a cost-effective control technology in any case. 73 FR at 34077. The technology would now be evaluated as more cost-effective than at proposal, since greater PM reductions will result from its use. Therefore, we are establishing an NSPS PM limit of 0.01 lb/ton clinker in this final NSPS, averaged over 30 days (rolling average) and measured with a CEM. For reasons previously discussed, we are setting the same limit for clinker coolers. *See* section IV.A.g of this preamble above. *See* section V for a discussion on measuring compliance with a PM CEM.

d. Change in Format of the Standard From lb/ton Feed to lb/ton Clinker

The change in format of the standard from feed to lb/ton clinker was actually proposed in the NSPS. However, this issue was also raised in response to the proposed PM and mercury limits in the NESHAP, and was previously discussed in section IV.A.1.i.

e. Applicability of NSPS Limits to Modified Kilns

At proposal we had one set of emission limits for PM, SO_2 and NO_X that were applicable to all new, reconstructed, and modified kilns. Commenters expressed concerns of the ability of a modified kiln to meet the same limits as a newly constructed kiln.

The PM and SO_2 limits are based on control technologies that can be applied

[38] Section 111(b) specifically indicates that standards may be expressed as numerical limits or as percent reductions.

[39] Summary of Cement Kiln Wet Scrubber and Lime Injection Design and Performance Data, May 29, 2008.

to any kiln type and achieve the same control levels that would be expected with a new kiln at similar costs. We see no issue here as to technical feasibility. However, this is not necessarily the case with NO_X. New preheater/precalciner kilns with staged combustion achieve NO_X levels in the 2.0 to 3.0 lb/ton clinker range. As discussed above, in developing the NO_X limit, we assumed this level as baseline in assessing the level achievable with SNCR, which is the technology basis of BDT. However, older kiln designs can have much higher NO_X levels, ranging from 2.0 to 8.0 lb/ton clinker. Kilns in the higher end of the range might need to achieve an 80 percent emissions reduction to meet the 1.5 lb/ton clinker NO_X limit. Industry commenters requested that EPA either exempt modification from the NSPS, or set separate limits.

In this final rule we are still including modified kilns as an affected source. The suggestion that modified kilns be outright exempted from these NSPS revisions appears legally strained, given that modified sources are a type of new source for which EPA is obligated to develop, and review and revise as appropriate. Moreover, if we were to exempt modified kilns, then such sources would be free to increase emissions without application of BDT, a particular concern with respect to pollutants like NO_X which are not presently regulated by the NSPS. This would undermine the basis of section 111 standards, where Congress wanted to assure that BDT was applied to modified sources qualifying as "new." The purpose of the Act is to enhance the Nation's air quality (CAA section 101 (b)(1)), and new source performance standards under section 111 serve that goal. *Asarco* v. *EPA*, 578 F. 2d 319, 327 (DC Cir. 1978). Commenters had also claimed that other regulatory programs, most notably new source review, would result in a site specific BACT determination if emissions increased. Though we are always mindful of the interrelationship of different EPA regulatory programs and their effects, we do not see this as sufficient reason not to establish a NO_X emissions limits for modified kilns.

We further investigated whether we should set a different NO_X emissions limit for modified kilns. However, we believe the BDT is the same, and are therefore establishing the 1.5 lb/ton clinker as the limit for modified kilns. We have two reasons for doing so. First, we note that there are kilns of older design that meet levels below 1.5 lb/ton clinker, and in some cases below 1.0 lb/ton clinker, with SNCR control. Therefore, modified kilns would not necessarily be unable to meet the 1.5 lb/ton clinker limit. However, sources always have the option of adding sufficient NO_X control to avoid an hourly emissions increase and avoid thus triggering the modification provision. Cf. *Asarco,* 578 F. 2d at 328 ("the operator of an existing facility can make any alternations he wishes in the facility without becoming subject to the NSPS as long as the level of emissions from the altered facility does not increase. Thus, the level of emissions before alterations take place, rather than the strict NSPS, effectively defines the standard that an altered facility must meet"; the Court did not rule on the validity of these unchallenged provisions (*id.* at n. 32)). The NO_X controls available to cement kilns which could be utilized to prevent an increase in NO_X emissions, in addition to SNCR, are conversion to indirect firing, mid-kiln fuel injection, mid-kiln air injection, and substitution of steel slag for some limestone.

f. Regulation of VOC/CO

We are not establishing limits for CO or volatile organic compound (VOC) emissions from cement kilns. VOC emissions from new cement kilns will mainly result from organics in the raw materials. Organic constituents in the raw materials can be driven off in the kiln preheater prior to reaching temperature zone that would result in combustion. All new cement kilns will be subject to a continuous 24 ppmvd THC emissions limit by the Portland Cement NESHAP previously discussed. Because most of the THC are also VOC, the THC limit also directly limits VOC, and serves as the baseline for the NSPS analysis. This limit is also the new source limit based on the best performing source. Therefore we determined that no additional regulation of VOC emissions is necessary or feasible.

Emissions of CO can come from two sources, unburned fuel from the precalciner and CO evolved from the raw materials by the same mechanism as the THC emissions. Unburned fuel represents an economic loss to the facility. Therefore, new precalciners are designed to combust fuel as efficiently as possible, and CO emissions from fuel combustion are minimized, regardless of any potential emission limit.

Emissions of CO evolved from raw materials can be significant if there are substantial levels of organics in the raw material. As noted at proposal, the only control technology identified to reduce CO emissions is a RTO (which also would concurrently reduce any VOC emissions). However, we believe application of an RTO as BDT for CO would result in significant cost and adverse energy impacts. Therefore, we determined that no additional regulation of CO emissions is feasible.

We also noted that in no cases had add-on controls for CO (or VOC) been required as BACT under new source review.

g. Regulation of Greenhouse Gases (GHGs)

In the proposal we did not propose standards of performance covering GHGs due to concerns about "issues related to the regulation of GHGs under the CAA" and noted that we were in the process of evaluating avenues for addressing such concerns. *See* 73 FR at 34,084. These concerns were specifically related to the Prevention of Significant Deterioration and Title V permitting programs and the unmanageable permitting burden that we anticipated would arise should GHGs become subject to these programs as a result of regulation under the Act.

Since that time, we have issued regulations for GHG emissions under the CAA through the light duty vehicle rule (75 FR 25324, (May 7, 2010)) and have finalized the greenhouse gas "tailoring" rule (75 FR 31514 (June 3, 2010)) and the Johnson memo reconsideration (75 FR 17004 (April 2, 2010)). As a result of these actions, as of January 2, 2011, GHGs will become "subject to regulation" under the Act. Accordingly, the Agency has now finalized a framework addressing the concerns that were the basis of our decision not to propose standards of performance for GHG emissions from this industry at the time we proposed this 8-year review action.

Today's final rule does not include a standard of performance for GHG. There are two reasons for this. First, we did not propose such a standard. Promulgating such a standard without providing opportunity to comment on it would not be a logical outgrowth of the proposal and would, accordingly, violate the norms of notice and comment rulemaking. Second, we do not yet have adequate information about GHG emissions sufficient to set a standard. This information forms the basis of standards of performance, which must take into account achievability and cost of such controls.

This is not the end of the matter. To the contrary, based on our current knowledge we believe that it may be appropriate for the Agency to set a standard of performance for GHGs. We have historically declined to propose standards for a pollutant where it is emitting in low amounts or where we

determined that a BDT analysis would result in no control. *National Lime Assoc'n* v. *EPA*, 627 F.2d at 426. Based on current information we do not believe such circumstances are present here. Without prejudging the outcome of a future regulatory process, we note the following considerations.

First, Portland cement is one of the largest stationary source categories of GHG emissions, ranking as the third highest U.S. source of CO_2 emissions. Second, based on our initial evaluation it appears that there are cost-effective control strategies for this source category that would provide an appropriate basis for establishing a standard of performance for GHG emissions. *See* 73 FR 44491, July 30, 2008. These control strategies include, for example, energy efficiency measures, reductions in cement clinker content, and raw materials substitution. There may be other cost-effective controls as well.

Based upon this preliminary evaluation, the Agency is working towards a proposal for GHG standards from Portland cement facilities. We are not, however, proposing such standards at this time because in order to develop proposed standards we need additional information on site specific factors that affect performance of these controls, where they are currently applied, and control costs. We would also solicit information on overall facility energy management practices. To this end, the Agency will be sending out information requests to fill these information gaps so that we are able to propose a standard addressing GHGs in a timeframe that would allow the regulated community to make sound investment decisions in response to these MACT and NSPS requirements.

2. What is our final action on the other emission limits in the NSPS?

We did not propose changes to the other emissions limits in the NSPS, such as materials handling operations. We received one comment recommending that we promulgate NSPS limits for clinker storage piles, raw materials handling, and baghouse fall-out. Open clinker piles are being regulated as part of the NESHAP as previously discussed. Materials handling operations are currently regulated under NESHAP. We believe baghouse fall out would be regulated as part of materials handling standards.

3. What other changes are being promulgated?

As previously noted, cement kilns are potentially subject to both the NSPS and the Portland Cement NESHAP (40 CFR part 63, subpart LLL). In § 63.1356 of subpart LLL, we exempt any source subject to that subpart from applicable standards under the NSPS and the Metallic Minerals Processing NSPS (subpart OOO). That language was appropriate because the NSPS only regulated PM, and the PM limits in the NSPS and NESHAP were identical. At proposal, where the proposed new source PM limits in the NSPS and NESHAP were different, we proposed to add language in both the NSPS and the NESHAP to state that when there are emissions standards for a specific pollutant that apply to an affected source in both the NESHAP and the NSPS, the source should comply with the most stringent limit, and is not subject to the less stringent limit.

This proposed language is still applicable even though in this final rule we are setting identical new source PM standards in the NSPS and NESHAP rule. For example, a cement kiln that is an existing source under NESHAP subject to the 0.04 lb/ton clinker emissions limit could potentially become modified under NSPS and also be subject to the 0.01 lb/ton clinker emissions limit. In addition, there is always a possibility that other situation may occur where a source is subject to differing emission limits under NSPS and NESHAP as a result of rule changes.

4. What are the final testing requirements under subpart F?

There are no PM, NO_X or SO_2 compliance testing requirements; compliance is based on the use of a continuous emissions monitor (*see* below).

5. What are the final monitoring requirements under subpart F?

To demonstrate compliance with the PM emission limits, we are amending the monitoring requirements to require the installation and operation of a PM CEMS. The reason for this decision was previously discussed. Because this requirement is also part of the Portland Cement NESHAP, it will also apply to existing kilns currently subject to the NSPS. Consequently, affected facilities under this rule are not subject to an opacity standard to monitor compliance with the final PM standard. The PM CEMS must be installed and operated in accordance with the requirements of § 60.63(g).

We are also adding monitoring requirements for all emission sources that are subject to the 10 percent opacity standard—that is, emission sources other than the kiln and clinker cooler. We are requiring that they meet the monitoring requirements for these same emission points contained in the Portland Cement NESHAP, 40 CFR part 63, subpart LLL in order to make the two rules consistent.

Under the final amendments, compliance with the emission limits for NO_X and SO_2 are also determined using continuous emissions monitoring systems (CEMS). The requirements for the installation, operation, and calibration of each CEM, including minimum data requirements, are specified in the requirements in § 60.63(k) and (l). Under the final amendments, the owner or operator of kilns that elect to comply with the alternative SO_2 emission limit of 90 percent reduction are required to continuously monitor SO_2 emissions at the scrubber inlet as well as the outlet. These are the same requirements proposed. We received no comments on the NO_X monitoring provisions. Commenters objected to the SO_2 monitoring requirement for facilities that do not require SO_2 controls, suggesting stack tests every five years instead. However, in these cases, it is possible that a source might change a raw material and significantly increase SO_2 emissions beyond the standard. If monitoring is not in place, these excess emissions could be unchecked for five years before they were discovered. We believe the cost of the SO_2 monitor ($56,000) is reasonable to prevent these excess emissions. These monitors are well established technology that are already installed on over 30 cement kilns, including those without SO_2 controls.

C. What is EPA's sector-based approach?

Sector-based approaches are based on integrated assessments that consider multiple pollutants in a comprehensive and coordinated manner to manage emissions and CAA requirements. One of the many ways we can address sector-based approaches is by reviewing multiple regulatory programs together whenever possible. This approach essentially expands the technical analyses on costs and benefits of particular technologies, to consider the interactions of rules that regulate sources. The benefit of multi-pollutant and sector-based analyses and approaches include the ability to identify optimum strategies, considering feasibility, costs, and benefits across the different pollutant types while streamlining administrative and compliance complexities and reducing conflicting and redundant requirements, resulting in added certainty and easier implementation of control strategies for the sector under consideration.

In order to benefit from a sector-based approach for the cement industry, EPA analyzed how the NESHAP under reconsideration relates to other regulatory requirements currently under review for Portland cement facilities. In this analysis we looked at how the different control requirements that result from these requirement interact, including the different regulatory deadlines and control equipment requirement that result, the different reporting and recordkeeping requirements, and opportunities for States to account for reductions resulting for this rulemaking in their State implementation plans. The requirements analyzed affect HAP and/or criteria pollutant emissions from cement kilns and cover the NESHAP reconsideration, area source NESHAP, and the NSPS revision and their collateral impacts on other programs such as New Source Review (NSR), Regional Haze and the National Ambient Air Quality Standards (NAAQS).

As a result of the sector-based approach, this rulemaking will reduce conflicting and redundant requirements by setting the same PM emission limit requirement for both the Cement NESHAP and the Cement NSPS. Also the sector-based approach facilitated the streamlining of monitoring, record keeping and reporting requirements on both rules reducing administrative and compliance complexities associated with complying with both regulations. In addition, the sector-based approach promotes a comprehensive control strategy that maximizes the co-control of multiple regulated pollutants (*i.e.*, mercury and HCl) while obtaining SO_2 and $PM_{2.5}$ emission reductions as co-benefits. These collateral SO_2 and $PM_{2.5}$ emission reductions may be considered for "netting" and "offsets" purposes under the major NSR program or as credits that could help areas around the country with attainment of the SO_2 or $PM_{2.5}$ NAAQS.

For more information on our sector's analyses, its benefits and interaction with NSR, NAAQS and Regional Haze please refer to the preamble of the proposal of this rule (74 FR 21159–61).

V. Responses to Major Comments

This section presents a summary of responses to major comments. A summary of the comments received and our responses to those comments may be found in Docket ID No. EPA–HQ–OAR–2007–0877 for subpart F and Docket ID No. EPA–HQ–OAR–2002–0051 for subpart LLL.

A. What are the significant comments and responses on 40 CFR part 63, subpart LLL?

Comment: Many industry commenters (2830, 2832, 2836, 2841, 2844, 2845, 2858, 2859, 2863, 2864, 2874, 2890, 2908, 2910, 2914, 2915, 2916, and 2917) stated that setting MACT floors on a pollutant-by-pollutant basis violates the law and results in MACT floors that bear no relation to emission limits that are being achieved at the best performing existing sources. According to industry commenters, this method violates the plain language and intent of section 112(d) of the Clean Air Act (CAA) and its effect is a MACT floor that reflects a standard that no one plant in existence currently achieves. Industry commenters 2832, 2841, 2844, 2845, 2846, 2910, 2914, 2915, and 2916 stated that section 112(d)'s use of the terms *best-performing* and *existing* clearly means that sources in a category or subcategory that are used to set the MACT floor are to be real, not theoretical or hypothetical, sources (42 U.S.C. 7412(d), 2006 and *Northeast Maryland Waste Disposal Authority,* 358 F.3d at 954). They further contend that the phrase *achieved in practice* can only mean that Congress intended actual sources, performing under real-life conditions, to be the benchmark for determining the MACT floors. Furthermore, the language of the statute does not speak in terms of the best-performing source or sources for each listed pollutant or group of pollutants (42 U.S.C. 7412(d)). Rather, the focus is on the best existing source or sources for all pollutants, and what these sources truly can achieve on an overall basis. Industry commenters argue that EPA's pollutant-by-pollutant methodology is also at odds with the legislative history underlying section 112(d) (S. Rep. No. 228, 101st Cong., 1st Sess. 169, 1989).

According to the industry commenters, the focus on overall performance is not surprising because in the 1990 CAA Amendments Congress abandoned section 112's previous focus on individual pollutant standards, and adopted the technology-based multi-pollutant approach to regulating toxics in use under the Clean Water Act (CWA). *See* S. Rep. No. 228, 101st Cong., 1st Sess. 133–34 (1989). Thus, if one source can achieve a firm degree of control for one pollutant but not for another, there may be no justification for including it in the set of sources from which the floor is calculated (*Tanners' Council of America* v. *Train,* 540 F.2d 1188, 1193 (4th Cir. 1976) deeming CWA effluent limitations guidelines not achievable where plants in EPA's database were capable of meeting the limitations for some, but not all, of the pollutant parameters).

Some industry commenters (2845, 2910) stated that EPA's previous use of a pollutant-by-pollutant analysis was based on authorities not applicable to the CAA. EPA attempted to defend its practice of establishing pollutant-by-pollutant MACT standards by citing *Chemical Mfr. Ass'n.* v *EPA,* 870 F.2d 177, 239 (1989), clarified 885 F.2d 253, 264 (5th Cir. 1989), cert. denied, 495 U.S. 910, (1990), a case where the Court held that, under the CWA, *best available technology* (BAT) referred to the single best-performing plant on a pollutant-by-pollutant basis.

According to industry commenters 2845 and 2910, EPA's reliance on *Chemical Mfr. Ass'n* is misplaced as the CAA's procedure regarding the selection of MACT technologies differs on a textual basis from the CWA's procedure for identifying best available technology. Under the CWA, BAT standards are to be set based on the best practicable control technology currently available. 33 U.S.C. 1311(b)(1)(A)(i)(2006). This has led to pollutant-by-pollutant determinations. The CAA more narrowly limits the basis for MACT designation to what has been achieved at existing sources, not what could be hypothetically achievable on a per-pollutant basis.

One industry commenter (2890) stated that EPA appears to be forgetting that the floor is only the first step in the process. Once EPA has established a floor based on physical sources, it is directed to go back and look at options beyond the floor. Those *beyond the floor* options would include the best control for each pollutant on every source. By correcting the floor approach, EPA would also correct the issue identified by Judge Williams in his concurring opinion to the Brick vacatur, where a floor that is designed to represent what has been achieved is more stringent than what would be deemed achievable under a MACT.

Response: We disagree with the commenters who object to setting MACT floors on a pollutant-by pollutant basis. Contrary to the commenters' suggestion, section 112(d)(3) does not mandate a total facility approach. A reasonable interpretation of section 112(d)(3) is that MACT floors may be established on a HAP-by-HAP basis, so that there can be different pools of best performers for each HAP. Indeed, as illustrated below, the total facility approach not only is not compelled by the statutory language but can lead to results so arbitrary that the approach may simply not be legally permissible.

Section 112(d)(3) is ambiguous as to whether the MACT floor is to be based on the performance of an entire source or on the performance achieved in controlling particular HAP. Congress specified in section 112(d)(3) the minimum level of emission reduction that could satisfy the requirement to adopt MACT. For new sources, this floor level is to be "the emission control that is achieved in practice by the best controlled similar source." For existing sources, the floor level is to be "the average emission limitation achieved by the best performing 12 percent of the existing sources" for categories and subcategories with 30 or more sources, or "the average emission limitation achieved by the best performing 5 sources" for categories and subcategories with fewer than 30 sources. This language does not address whether floor levels can be established HAP-by-HAP or by any other means. The existing source MACT floor achieved by the average of the best performing 12 percent can reasonably be read as referring to the source as a whole or to performance as to a particular HAP. The reference in the new source MACT floor provision to "emission control achieved by the best controlled similar source" can mean emission control as to a particular HAP or emission control achieved by a source as a whole.

Industry commenters also stressed that section 112(d) requires that floors be based on actual performance from real facilities, pointing to such language as "existing source", "best performing", and "achieved in practice". EPA agrees that this language refers to sources' actual operation, but we repeat that the language says nothing about whether it is referring to performance as to individual HAP or to single facility's performance for all HAP. Industry commenters also said that Congress could have mandated a HAP-by-HAP result by using the phrase "for each HAP" at appropriate points in section 112(d). Doing so would have removed ambiguity from section 112(d), but does not compel any inference that Congress was *sub-silentio* mandating a different result when it left the provision ambiguous on this issue. The argument that MACT floors set HAP-by-HAP are based on the performance of a hypothetical facility, so that the limitations are not based on those achieved in practice, just re-begs the question of whether section 112(d)(3) refers to whole facilities or individual HAP. All of the limitations in the floors in this rule of course reflect sources' actual performance and were achieved in practice.

The reason EPA has long adopted the interpretation that the existing and new source MACT floors are to be applied on a HAP-by-HAP basis are that a whole plant approach likely yields least common denominator floors—that is floors reflecting mediocre or no control, rather than performance which is the average of what best performers have achieved. *See* 61 FR at 173687 (April 19, 1996); 62 FR at 48363–64 (September 15, 1997) (same approach adopted under the very similar language of section 129(a)(2)). For example, if the best performing 12 percent of facilities for HAP metals did not control organics as well as a different 12 percent of facilities, the floor for organics and metals would end up not reflecting best performance. For new sources, not only would the floor reflect unoptimized control, but EPA would have to make some type of value judgment between control of organics and metals just to decide which source was best controlled.[40]

Commenters provided no description of how their total facility approach would work in practice. Would a source that is a best performer for PM and worst for other HAP be in the pool? Would there be some overall summing of where the kiln fell for each pollutant? Would there have to be value judgments made among pollutants (is being a best performer for mercury worth more than for PM in a ranking process)? EPA evaluated an approach whereby every kiln was ranked for performance for each HAP and the results were summed with the lowest overall score being the best performer, and next lowest the second best, *etc.* (among other things yielding a tie for best performer with no non-arbitrary way to break the tie). Using this approach, and with the three lowest ranked kilns as the average of the best performers, standards (after applying the UPL equation) would be approximately 65 lb/MM tons of clinker for mercury, 90 ppm for THC (nearly four fold increase), and 0.12 for PM (over an order of magnitude increase). All but one kiln in the data base already meets the THC standard, 21 of 89 kilns would meet the mercury limit, and 27 of 46 kilns have stack test measurements less than the 30-day value for PM. *See* memorandum, "Total Facility Approach for Setting MACT Floors", August 6, 2010.[41] These inflated values, and especially the drastically inflated THC and PM values, simply do not reflect best performance.

These types of results are at odds with Congress' purpose in adopting MACT floors. The central purpose of the amended air toxics provisions was to apply strict technology-based emission controls on HAPs. *See, e.g.*, H. Rep. No. 952, 101st Cong. 2d sess. 338. The floor's specific purpose was to assure that consideration of economic and other impacts not be used to "gut the standards. While costs are by no means irrelevant, they should by no means be the determining factors. There needs to be a minimum degree of control in relation to the control technologies that have already been attained by the best existing sources." A Legislative History of the Clean Air Act *Vol. II* at 2897 (statement of Rep. Collins). An interpretation that the floor level of control must be limited by the performance of devices that only control some of these pollutants effectively "guts the standards" by including worse performers in the averaging process, whereas EPA's interpretation promotes the evident Congressional objective of having the floor reflect the average performance of best performing sources. Since Congress has not spoken to the precise question at issue, and the Agency's interpretation effectuates statutory goals and policies in a reasonable manner, its interpretation must be upheld. *See Chevron* v. *NRDC*, 467 U.S. 837 (1984).[42]

It is true that legislative history can sometimes be so clear as to give clear meaning to what is otherwise ambiguous statutory text. As just explained, EPA's HAP-by-HAP approach fulfills the evident statutory purpose and is supported by the most pertinent legislative history. A few

[40] Another industry commenter (2859) stated that it had three sources which were best performers for mercury and three other sources which were best performers for PM but that each would need to make upgrades for the pollutant not currently fully controlled. EPA views this as another least common denominator example whereby each of the floors would be diluted due to the coincidence that facilities are not optimizing control of all their emitted pollutants. See also Petitioners Brief in *Medical Waste Institute et al.* v. *EPA*, No. 09–1297 (DC Cir.) pointing out, in this context, that "the best performers for some pollutants are the worst performers for others" (p. 34) and "[s]ome of the best performers for certain pollutants are among the worst performers for others."

[41] This example could have been more extreme. One of the ultra-high mercury emitting sources is nearly a best performer for HCl (it is just outside the pool of three best performers). Inclusion as a best performer, under some methodologies, would have added these mercury emissions to the pool of "best performers", even though, for mercury, performance is the worst.

[42] Since industry commenters argued that the statute can only be read to allow floors to be determined on a single source basis, commenters offered no view of why their reading could be viewed as reasonable in light of the statute's goals and objectives. It is not evident how any statutory goal is promoted by an interpretation that allows floors to be determined in a manner likely to result in floors reflecting emissions from worst or mediocre performers.

industry commenters nonetheless indicated that a HAP-by-HAP approach is inconsistent with legislative history to section 112(d), citing to page 169 of the Senate Report. Since this Report was to a version of the bill which did not include a floor provision at all (much less the language at issue here), it is of no relevance. *National Lime II*, 233 F. 3d at 638.

Other industry commenters pointed out correctly that the section 112(d) air toxic provisions were modeled on the technology-based control scheme for water toxics in the Clean Water Act. S. Rep. No. 228, 101st Cong. 2d sess. 133–34. However, a HAP-by-HAP approach to standard setting has actually been adopted and upheld under the Clean Water Act. Section 301(b)(2)(A) of the Clean Water Act requires plants to control discharges of toxic pollutants to a degree reflecting performance of "best available technology economically achievable." In *Chemical Manufacturers Ass'n* v. *EPA*, 870 F. 2d 177, 238 (5th Cir. 1989) the Court held that this requirement could permissibly be applied on a pollutant-by-pollutant basis:

> The legislative history of the CWA indicates that the "best available technology" refers to the single best performing plant in an industrial field. The EPA urges that because the Act and the legislative history do not provide more particular guidance, it was free to determine the "best" plant on a pollutant-by-pollutant basis. The Supreme Court has stated that "it is by now commonplace that 'when faced with a problem of statutory construction, this Court shows great deference to the interpretation given the statute by the officers or agency charged with its administration.'" This Court defers to the EPA's interpretation of the Act. The EPA's interpretation of the Act is rational and is not precluded by the legislative history" (internal citations omitted).

The Court reaffirmed its holding on this issue at 885 F. 253, 264 (5th Cir. 1989).

Industry commenters stated that the Clean Water Act requirement of Best Available Technology Economically Achievable and Best Practicable Technology is not the same as the Clean Air Act's requirement of maximum achievable control technology. These distinctions do not seem pertinent to the issue at hand. Both statutes require technology-based performance to control all toxics discharged or emitted, and both require standards to be achievable. The legislative history to section 112(d) makes clear that the CAA provisions are modeled after those in the Water Act (as industry commenters correctly noted). EPA does not see any more certainty in the CWA than in the Clean Air Act on this point and believes its interpretation that a pollutant-by-pollutant approach is justified is as reasonable under section 112(d)(3) of the CAA as it is under section 301(b)(2) of the Clean Water Act.[43]

Industry commenters also noted that EPA retains the duty to investigate and, if justifiable, to adopt beyond the floor standards, so that potential least common denominator floors resulting from the whole facility approach would not have to "gut the standards." That EPA may adopt more stringent standards based on what is "achievable" after considering costs and other factors is irrelevant to how EPA is required to set MACT floors. MACT floors must be based on the emission limitation achieved by the best performing 12 percent of existing sources, and, for new sources, on the level achieved by the best controlled similar source, and EPA must make this determination without consideration of cost. At best, standards reflecting a beyond-the-floor level of performance will have to be cost-justified; at worst, standards will remain at levels reflecting mediocre performance. Under either scenario, Congress' purpose in requiring floors is compromised.

EPA notes, however, that if optimized performance for different HAPs is not technologically possible due to mutually inconsistent control technologies (for example, metals performance decreases if organics reduction is optimized), then this would have to be taken into account by EPA in establishing a floor (or floors). The Senate Report indicates that if certain types of otherwise needed controls are mutually exclusive, EPA is to optimize the part of the standard providing the most environmental protection. S. Rep. No. 228, 101st Cong. 1st sess. 168 (although, as noted, the bill accompanying this Report contained no floor provisions). It should be emphasized, however, that "the fact that no plant has been shown to be able to meet all of the limitations does not demonstrate that all the limitations are not achievable." *Chemical Manufacturers Association* v. *EPA*, 885 F. 2d at 264 (upholding technology-based standards based on best performance for each pollutant by different plants, where at least one plant met each of the limitations but no single plant met all of them).

All available data for cement kilns indicate that there is no technical problem achieving the floor levels for each HAP simultaneously, using the MACT floor technology. For most kilns, compliance with the mercury limits will be accomplished using activated carbon injection followed by a second PM control consisting of a fabric filter. There is no technical impediment to using this same system for control of THC (or organic HAP). Note that the ACI system would have to be installed downstream of the existing PM control, therefore there would be no effect on the cement kiln dust collected in the existing PM control. One industry commenter claimed that carbon is not effective on mercury and THC at the same time. However, we see no basis for that statement as long as the correct type of carbon is used. Another industry commenter claimed ACI increases dioxin emissions. Considering the fact that ACI can actually be used to remove dioxins from kiln exhaust gas, we see no basis for that statement either.

After the ACI system, a wet scrubber can be used for HCl control. We would expect the wet scrubber to be the downstream control because it creates a moisture laden exhaust that would require reheating to then apply ACI. Again, there is no technical impediment to adding a wet scrubber after the ACI system, and the two control devices should not interfere with each other's performance. If the facility required an RTO to meet the THC limit, the RTO would be installed downstream of the wet scrubber in order to protect the RTO from any acid gases in the kiln exhaust. The wet scrubber/RTO combination has been demonstrated in cement kiln applications.

In order to meet the PM standard a facility could choose to modify their

[43] One industry commenter cited *Tanners' Council of America* v. *Train*, 540 F. 2d 1188, 1193 (4th Cir. 1976) for the proposition that technology-based effluent limitation guidelines under the Clean Water Act are not considered achievable "where plants in EPA's database were 'capable of meeting the limitation for some, but not all, of the pollutant parameters'". *Tanners' Council* involved a situation where EPA established standards for one source category based on a transfer of performance information from a different, unrelated source category. 540 F. 2d at 1192–93. Since the wastewater from the category from which the limits were transferred was easier to treat than tannery wastewater, the court was skeptical of EPA's undocumented assertions that the transfer of performance data (with certain upward adjustments) was permissible. *Id.* None of these circumstances apply here. EPA is not transferring performance from another category, but basing limits on documented performance of cement kilns. In addition, as noted in earlier preamble text, all of the kilns in the pool of best performers for each HAP is meeting the limit for that HAP, a strong showing of technical feasibility and technical achievability. Cf. *CPC International* v. *Train*, 540 F. 2d 1329, 1333 (8th Cir. 1976); *American Meat Inst.* v. *EPA*, 526 F. 2d 442, 458, 459 (7th Cir. 1975). Further, as discussed in the final part of this comment response, EPA has closely examined and is unaware of any situation whereby optimized performance for one HAP interferes with or otherwise precludes or impedes optimized performance for another.

existing PM control to meet the new limit, or design the baghouse downstream of the ACI injection point to meet the PM limit.

Though we have described some fairly complicated control scenarios, there are simpler applications of control technology that would likely be utilized successfully. One example would be simultaneous injection of alkaline materials (lime or sodium compounds) and activated carbon downstream of the existing PM control device followed by collection with a fabric filter. This type of injection scheme would potentially control acid gases (HCl and SO_2), THC (or organic HAP) mercury, and PM.

Industry commenters made much of the fact that no single facility is presently achieving all of the HAP limits proposed. But this only shows that plants will need to reduce their emissions of certain HAP to meet standards reflecting average of best industry performers for that HAP.

Impacts of Pollutant-by-Pollutant Approach

Comment: Industry commenters 2831, 2844, 2845, and 2874 stated that in evaluating the economic cost of achieving emission reductions, looking at one plant's emission control of only one pollutant to the exclusion of all other emission controls produces a disjointed view of cost implications and compliance feasibility. While an individual MACT floor for one pollutant might not appear cost-prohibitive, when combined with all of the other MACT floors for other pollutants, the total cost implications could become especially onerous. While the CAA was authored with the intent of reducing air pollution, Congress did not intend to disrupt the *productive capacity* of the United States through the promulgation of economically unachievable standards. 42 U.S.C. 7401(b)(1)(2006). By setting MACT floors individually and ignoring the collective cost implications of the entire NESHAP, EPA would effectively disregard the CAA's requirement that air pollution control be advanced while promoting the nation's *productive capacity. Id.*

Response: EPA is forbidden by law from considering costs in determining MACT floors. *NRDC* v. *EPA,* 489 F. 3d 1364, 1376 (DC Cir. 2007); *National Lime,* 233 F. 3d at 640. Although one of the overall goals of the Act is to protect and enhance the quality of the Nation's air and resources so as to promote the public health and welfare and the productive capacity of the population," CAA section 101 (b) (1), this overall goal does not somehow authorize EPA to adopt floors that either consider costs (overall or otherwise) or to base floors on other than what best performers achieve.

2.3.3 Lowest Emitters as Best Performers

Comment: One industry commenter (2834) stated that the Brick MACT ruling of the DC Circuit Court reinforces earlier holdings in *National Lime Association* vs. *EPA.* The Court again held that floors are to be based on the emission level actually achieved by the best performers (those with lowest emission levels), not the emission level achievable by all sources.

Response: In this rule, EPA is choosing as best performers those sources with lowest emissions of each HAP, on a normalized basis, with sources' variability taken into account in assessing which had the lowest emissions.

Comment: Many industry commenters (2841, 2844, 2845, 2846, 2858, and 2914) stated that EPA established its proposed floors equating best performing sources with those that have the lowest emissions for particular HAPs even though there are other ways to measure performance and, in some cases, other methodologies may comply with the statute where the "lowest emitter" approach does not. Industry commenter 2845 noted that equating best performer with lowest emitter contravenes a Congressional directive that, in developing MACT standards, EPA cannot require substitution of raw materials in mineral processing industries, such as cement manufacturing, quoting the Joint Explanatory Statement of the Committee of Conference for the 1990 CAA Amendments stated: For categories and subcategories of sources of [HAPs] engaged in mining, extraction, beneficiation, and processing of nonferrous ores, concentrates, minerals, metals, and related in-process materials, the Administrator shall not consider the substitution of, or other changes in, metal- or mineral-bearing raw materials that are used as feedstocks or material inputs * * * in setting emission standards, work practice standards, operating standards or other prohibitions or requirements or limitations under this section for such categories and subcategories. H.R. Rep. No. 101–952, at 339 (1990). According to the industry commenters, enormous amounts of limestone are fed into a kiln to manufacture clinker, and it is cost-prohibitive to import limestone from further away. If the plant's quarry contains limestone with high concentrations of mercury or high concentrations of organics, the kilns will emit more mercury or THC and potentially more organic HAPs. Because limestone with high mercury or organic emissions will result in higher HAP emissions, and it is not cost-effective to import limestone from far away, equating the lowest emitters with the best performing sources makes no sense in the context of cement facilities. It also would be squarely in opposition to the Joint Explanatory Statement.

Response: The industry commenter is citing to the "Joint Explanatory Statement" that accompanied the Conference Committee Report to the 1990 Clean Air Act Amendments. This legislative history is of limited utility here. As explained at 353 F. 3d 388: "The Joint Explanatory Statement describes how the differences between the Senate and House were resolved in the Conference Committee * * *. The Joint Explanatory Statement may be helpful in determining Congress's intent, but does not carry the same weight as the Conference Committee Report itself." *See* id. at 236–37. If there were some ambiguity in the statute, the Joint Conference Committee Report could shed some light on Congress' intent, but there is no exception to section 112(d)(2)(A)'s requirement that EPA consider "substitution of materials" for each source category. Thus, the statement cannot be read to negate the express statutory command that MACT is to be based on, among other things, measures, processes, or systems which reduce the volume of pollutant emissions through substitution of materials or other process modifications. Indeed, EPA's attempts to identify best performers by ignoring the contribution of raw material inputs have been soundly rejected. *Brick MACT,* 489 F. 3d at 882–883. In fact, brick and ceramic production, like Portland cement production, involves extraction of mined material from a quarry located proximate to the production facility because transport of raw material over long distances is "infeasible". 489 F. 3d at 879. The language from the Joint Explanatory Statement no more allows EPA to ignore raw material contribution to Portland cement plants' HAP emissions than it did raw material HAP contributions to brick and ceramic plants' HAP emissions.

Comment: Industry commenter 2844 stated that EPA could interpret section 112(d)(3) as *Brick MACT* appears to do, as one unitary concept meaning sources with the lowest emission levels, or EPA can interpret it as a more complex concept that EPA may determine the emission control (using any of the various definitions in the CAA) that

sources have achieved in practice (as estimated by reasonably predictive variability factors) and rank them according to their relative emissions levels (*i.e.*, a quantitative measure of achievement). Having done so, the Agency can then evaluate each of the lowest emitters in terms of whether they meet the Agency's criteria for best controlled similar source. With regard to best controlled, EPA may evaluate this from a purely quantitative angle (lowest emissions) or from more qualitative aspects, reduction efficiency, environmental and health (or cross-media) impacts, cost-effectiveness of reductions achieved, impacts on other HAP or pollutant emissions, and so on.

Industry commenter 2845 provided several examples of judicial MACT decisions endorsing a technology approach to setting the standards, in which EPA selected the best performing sources based on the relative performance of air pollution control technology.

Industry commenter 2844 stated that EPA also has the discretion to define best performers as sources other than those with the lowest achieved emission levels. In the current proposal, the many difficulties associated with evaluating the impact of HAP content in the raw material inputs to mercury emission control and other factors could support a decision by the agency to establish a standard based on efficiency (*i.e.*, a percent reduction standard) if not for the source category as a whole, then such a standard might be established for a particular subcategory as relevant, or as an alternative compliance strategy. EPA's discretion is sufficiently broad to encompass many reasonable decisions identifying and estimating the emission control of best performing sources on bases other than lowest emissions data, assuming the floor for the standard is based on a reasonable methodology estimating the percent reduction achieved in practice by the best performing sources under the reasonably foreseeable worst operating conditions.

Industry commenter 2844 stated that before EPA can determine a floor, EPA must define the following terms in regard to the selection of a best performer for new sources: Emission control; Achieved in practice; Best controlled; and Similar source.

To set the floor for existing sources, the industry commenter stated that EPA should define the following terms: Average emission limitation; Achieved; and Best performing.

Response: EPA must make determinations in each standard as to each of these terms and has done so here. In this rule, EPA is determining that the best controlled similar source is the source with the lowest emissions of the HAP in question on a normalized basis (for mercury and PM), and on a concentration basis (for THC and HCl) considering variability in determining both which source is best controlled and in estimating its achieved performance. EPA is adopting the same approach for existing sources in determining which are the 12 percent of best performing sources and the performance they achieve. This approach accounts for all HAP inputs and outputs (*i.e.*, accounts for HAP in all raw material and feed inputs as well as all emission controls), and is consistent with the case law.

With regard to the comment stating that the standard could be expressed as a per cent reduction, the industry commenter did not explain how this can be done without negating the contribution of HAPs in feed and fuel input into plant performance. Most particularly, for HAP which are uncontrolled, mercury being the chief example in this rule, there is no removal efficiency to evaluate. Moreover, even for HAP which are controlled, plants with higher removal efficiencies may also be the highest emitters if the levels of the inputs to the control device is high. For these reasons, EPA is not evaluating best performers based on removal efficiencies in this rule.

Comment: Industry commenters 2832, 2846, and 2890 stated that rather than selecting sources with the lowest emissions for particular HAP as best performing sources, EPA could use the relative performance of air pollution control technology to select the best performing sources, applying the best reasonable method for determining best-performers, which does not necessarily have to equate to lowest emissions.

Response: EPA discussed this issue at some length at proposal. *See* 74 FR at 21149. The problem with equating best performance with performance of pollution control alone is that it ignores the contribution of raw materials and fuels to HAP emissions. Basing standards exclusively on performance of control technology is legally permissible when the control technology is the sole factor influencing performance, which is not the case here. *National Lime,* 233 F. 3d at 633–34. EPA thus is not adopting these industry commenters' approach. *See* previous response as well.

Comment: Several industry commenters (2845, 2846, 2874, and 2915) stated that EPA is proposing to calculate MACT floors by averaging the top 12 percent of sources for which CEMS data are available (even if that amounts to less than 30 sources), rather than by considering the top 12 percent of sources for which EPA has emissions information. As a result, EPA is proposing to establish the MACT floor based on data from only 2 sources. The industry commenters stated that CAA section 112(d) obligates EPA to set the MACT floor looking at no fewer than 5 sources, recognizing the value of relying on the maximum amount of data available.

Industry commenter 2841 stated that the use of a minimum of five facilities should be adopted in the establishment of THC standards as well as the other standards in this proposed regulation. The establishment of requirements based on a small amount of data would run counter to the intent of the CAA in utilizing data that is truly representative of the best-performing facilities throughout an entire industry.

Industry commenter 2841 stated that in previous MACT rulemakings, EPA used the five best performing facilities if the number of facilities was less than 30. Consistent with these prior rulemakings, the industry commenter stated that this approach should be used for this proposed Portland Cement NESHAP rule and that EPA needs additional data points in order to appropriately set limits for the industry as a whole.

Response: EPA believes that it has discretion to use the data which most accurately measure sources' performance, which for THC case are data obtained from CEM-equipped sources. EPA also believes that it has a reasoned technical basis for not combining CEMS data with non-CEM data, since this would be a classic apples-to-oranges comparison due to the difference in measuring times and methods. EPA does not agree that section 112 (d)(3) mandates a minimum of 5 sources in all instances, notwithstanding the incongruity of having less data to establish floors for larger source categories than is mandated for smaller ones. The literal language of the provision appears to compel this result.

Comment: One environmental advocacy group commenter (2898) supported EPA's decision to not rank best performers based on their relative mercury removal efficiency. Relying on mercury removal efficiency in setting the MACT floor for the Portland cement manufacturing industry would downplay the role of HAP inputs on emissions. EPA characterizes *Brick MACT's* statement that best performers are those emitting the least HAP as appearing arguably in dicta. However, the Brick MACT Court itself

characterizes the statement as the holding of the *Cement Kiln* case. *Brick MACT,* 479 F.3d at 880 (relying on Cement Kiln's holding that § 7412(d)(3) requires floors based on the emission level actually achieved by the best performers or those with the lowest emission levels). The proposed alternative of setting the MACT floor on the basis of percentage of emission reduction achieved by sources would minimize, if not eliminate, the consideration of cleaner inputs in setting MACT floors, as EPA acknowledges, and is therefore contrary to statutory dictates and case law.

Response: EPA agrees that the chief legal issue with a percent reduction approach for expressing floors is that it undervalues the role of HAP inputs. EPA is not adopting that approach in this rulemaking.

Comment: Several industry trade association commenters (2831 and 2901) stated that EPA retains considerable discretion on how to set MACT floors. The commenters supported the Agency's authority to set floor standards based on control efficiency, or any method as long as their method reasonably estimates the performance of the relevant best performing plants. There is nothing in the Court's decisions that requires EPA to use the straight-emissions approach favored in this rule. The commenter stated that the Court has expressly decided that a straight emissions or arithmetical methodology is not required. EPA's technology based approach that estimated performance rather than deriving the standards through an arithmetic-straight emissions approach is supported by the Courts, as long as it results in a reasonable estimate of the performance of the best controlled units. According to the commenter (2901), *Brick MACT* does not endorse a straight emissions approach; nor could it. To do so would mean that the *Brick MACT* Court was overturning the Chevron step one holding in *Sierra Club* and *National Lime II,* something that it cannot do.

Response: EPA is adopting the straight emissions (so-called) approach in this rulemaking and believes that the approach is permissible under the statue and case law. Commenters also did not convincingly address the issue of how the alternative approaches they mention account for HAP inputs. Moreover, *Sierra Club* and *National Lime II* make clear that a straight emissions approach may not be mandated under the language of the statute, but also make clear that there must be a reasoned basis for estimating which performers are best. *National Lime II,* and later *Brick MACT* further make clear that contribution of HAP inputs in raw materials and fuels must be accounted for in making best performer determinations. *See* 233 F. 3d at 634, 639; 479 F. 3d at 882–83. Each panel viewed these holdings as consistent with the *Chevron* analysis in *Sierra Club.* 233 F. 3d at 631–32, 633–34; 479 F. 3d at 878.

Comment: One industry commenter (2844) stated that the CAA requires that lawfully promulgated NESHAP standards must be achievable. Section 112(d)(2) of the Act requires EPA to establish emission standards for HAPs that require the maximum degree of reduction in emissions taking into consideration the cost of the emission reduction and non-air quality health and environmental impacts and energy requirements, that the EPA Administrator determines is achievable for new or existing sources. Further, House Rep. 101–490, Part 1 (328) stated that "The Committee expects MACT to be meaningful, so that MACT will require substantial reductions in emissions from uncontrolled levels. However, MACT is not intended to require unsafe control measures, or to drive sources to the brink of shutdown." The commenter noted that the proposed Portland cement proposed NESHAP standards do not comply with § 112's achievability requirements.

Response: The industry commenter refers to legislative history to versions of the 1990 amendments which did not include floor requirements, so it is not directly applicable in interpreting the enacted provisions. Moreover, as held repeatedly by the DC Circuit, the "achievability" requirement in section 112 (d)(2) does not alter the minimum level of stringency requirements mandated by section 112 (d)(3)'s requirements. *See, e.g., Cement Kiln Recycling Coalition,* 255 F. 3d at 861–62.

Comment: Industry commenter 2844 stated that EPA's conclusion that section 112(d)(3) and/or *Brick MACT* requires or even permits the Agency to ignore the achievability requirements of section 112(d)(2) is an unreasonable reading of the statute and of *Brick MACT.* The Agency retains more than sufficient discretion to devise NESHAP standards that successfully bridge the tension between achieved and achievable in section 112's standard-setting provisions by appropriately using both subcategorization and variability methodologies.

Response: EPA believes that variability needs to be assessed in order to accurately measure both which performers are best and what their performance is. However, authority to subcategorize is discretionary and need not be exercised where there are rational grounds not to do so, such as not authorizing emissions of large amounts of a dangerous neurotoxin. *See also* previous response.

Comment: Industry commenter 2844 stated that EPA's floor setting methodology does not comply with three of *Brick MACT's* requirements: Floors must be based on emissions achieved in practice by best-performing sources; EPA's use of variability factors and methodologies to adjust reported emissions data must be based on demonstrated relationships, so that the floor setting methodology serves to reasonably estimate or predict the performance of the best performing sources; and EPA must consider the impact of nontechnology factors, such as raw material and fuel inputs, on a source's emission control levels.

Industry commenter 2844 stated that in the Portland cement proposal, EPA set MACT floor levels that reflect the specific conditions at the time the data were generated and do not include any of the operational variability. The commenter suggests that EPA must look beyond its snap shots of performance to make a reasoned evaluation and estimation of all operating conditions and factors that might impact the level of actual emissions from those kilns in practice, and adjust their reported short term test data appropriately. EPA can and should adjust raw emissions results to estimate sources' achieved emissions levels when setting MACT floors and standards. Since Brick MACT, EPA's methodology now must be able to reasonably estimate the impacts of variability associated with both technological and nontechnological factors over the full range of circumstances.

Response: EPA disagrees that it has based the floors for any of the HAP on snapshot levels of performance and has not accounted for potential variability in sources' performance. Each of the floors reflects a reasonable estimate of what the best performing sources (or source) will achieve over time. Also, each of the floors considers the impact of non-technology factors, notably HAP inputs in raw materials and fuels, on the source's emissions.

Specifically, for mercury the standard reflects 30 days of data for all mercury inputs, reasonable estimates of control device performance (for the few controlled sources), plus a reasonable statistical methodology to account for variability (including variability of mercury content of kiln inputs). EPA also used a pooled variability factor (pooling variability for all kilns in the

MACT pool), which increased variability estimates. Where commenters provided data showing that kilns' performance was underestimated because different inputs were used outside the sampling period, EPA adjusted those emissions estimates. EPA also used data on variability of kilns quarrying limestone from the same geologic formation as two of the best performing kilns to estimate intra-quarry variability of those two best performing kilns, and further applied this variability as part of the pooled variability. *See* IV.A.1.c of this preamble and 74 FR at 21142–44.

The standard for THC reflects hundreds of observations gathered continuously over time using a CEMS yielding a data set from which variability can be calculated directly. *See* IV.A.1.d of this preamble.

The floors for HCl are set at the minimum reliable quantification level, which is a factor of three above the actual measured levels, and are averaged over 30 days as well. EPA believes this fully accounts for performance variability.

Floors for PM are based on multiple stack measurements which have been adjusted by reasonable statistical methodologies to account for variability. *See* IV.A.1.f of this preamble, responding to the argument that measurement by means of a CEM makes the standard more stringent. Moreover, the PM standard reflects performance of fabric filters with membrane bags, which are known to perform independent of inputs and to have relatively small operating variability. 72 FR at 54879 (Sept. 27, 2007); 70 FR at 59449 (Oct. 12, 2005).

Consequently, for each HAP, EPA is assessing sources' performance over time in a reasonable manner and is not ignoring their operating variability.

Comment: Industry commenter 2844 also stated that EPA adopted a floor setting methodology that is based on using lowest reported emission results with minimal variability adjustments to estimate emission control achieved in practice by best performing sources. EPA considered test-to-test variability, but did not consider the inherent variability due to raw materials, product mix, fuels, operating conditions and plant types. The industry commenter stated that EPA has not evaluated or validated whether its methodology accurately estimates emissions control achieved in real world circumstances at sources.

Response: This industry comment is inaccurate on a number of counts. First, the statistical methodology used to estimate variability depends on the distribution of data to which the formula is applied. Any variation in that data—be it due to differences in raw material concentration, fuel composition, or device operation—is thereby accounted for. Indeed, the data base for mercury consists virtually entirely of raw material and fuel mercury levels from which emissions are projected on a worst case, mass balance basis (since virtually no kiln controls its mercury emissions). Consequently, EPA's methodology does evaluate variability of inputs as well as product mix, fuels, operating conditions, and does not just evaluate control device operating variability as the commenter maintains. Second, for mercury and THC, EPA gathered data over time, as explained in the preamble and in the previous response. Third, for mercury, industry had ample opportunity to provide longer term sampling data and (with a few exceptions, which EPA evaluated and accepted) did not do so. Fourth, use of a pooled variability factor (which for mercury includes the reasonably estimated long-term intra-quarry variability of the two best performers extrapolated to all other sources in the MACT pool) further accounts for long term variability.

Comment: Industry commenter 2844 stated that EPA cannot evaluate floors using methodologies that focus exclusively on technology if the resulting standards do not reflect actual average limitation[s] achieved (*Brick MACT*, 479 F.3d at 882). The industry commenter concludes that *Brick MACT* requires EPA to address the role of non-technological factors that impact emissions in setting floors and EPA must develop a methodology that accurately estimates the actual emissions achieved in practice by the best performing sources under a variety of operating conditions, taking into consideration testing and technological and non-technological variability. As proof that EPA failed to properly account for sources' variability in setting the standards, the industry commenter (and industry commenter 2845) included a chart purporting to demonstrate that the kilns comprising the pool of best performers for each HAP could not themselves meet the proposed standard.

Response: EPA believes that its methodology reasonably estimates the variability of the best performing sources, taking into account both technological (emission control device) and non-technological (varying inputs) variability. EPA disagrees that the record shows that the kilns comprising the MACT pool for each floor cannot themselves meet the promulgated standards (*see* previous response). In fact, for each pollutant, the record indicates that every kiln in the MACT pool (not just the kilns below the average of the best performers) would be in compliance. *See* section IV.A.1.b above.

Comment: One industry commenter (2845) stated that case law and policy dictate that EPA must consider variability in establishing MACT standards, and the approach used by EPA in Prevention of Significant Deterioration (PSD) permitting should also apply in establishing MACT standards. To evaluate the emission limits achieved by existing sources, EPA is required to develop methodologies for estimating the variability associated with all factors that impact a source's emissions, including process, operational and non-technological variables (*see Nat'l Lime Ass'n* v. *EPA*, 627 F.2d 416, 443, DC Cir. 1980). While Courts have affirmed EPA's authority to choose a methodology designed to estimate emissions in setting the MACT floor, the Courts have also made clear that EPA's method must allow a reasonable inference as to the performance of the top 12 percent of units (*Cement Kiln Recycling Coalition* v. *EPA*, 255 F.3d 855, 862 (DC Cir. 2001)) (citing *Sierra Club* v. *EPA*, 167 F.3d 658, 663, DC Cir. 1999). Accordingly, the Court of Appeals for the DC Circuit has stated that EPA must show not only that it believes its methodology provides an accurate picture of the relevant sources' actual performance, but also why its methodology yields the required estimate (*Cement Kiln Recycling Coalition*, 255 F.3d at 862).

Response: EPA agrees that sources' variability should be accounted for both in determining which sources are best performers and what their achieved performance is. EPA also believes that it has reasonably accounted for sources' variability here, including both variability in inputs and operating variability.

Comment: Industry commenters 2844, 2845, and 2916 objected to EPA's interpretation of CAA Sections 112(d)(2) and 112(d)(3) and the *Brick MACT* opinion (Industry commenter 2845 provided a white paper as an appendix to their comments for the HWIMI MACT proposal, dated December 01, 2008.). The paper, titled "Implications of the Brick MACT Decision on EPA's Discretion in Setting MACT Floors," discusses variability at some length. The paper's main points were:

- The Agency has chosen to focus on setting MACT floors based on lowest

emitting sources derived from limited test results that are not appropriately adjusted to account for stack test variability.

• The *Brick MACT* decision holds that EPA must base MACT floors on achieved emissions control rather than control technology, but it does not require EPA to ignore operational variability in determining those floors. Variability methodologies must reasonably estimate or predict emissions or variability through a demonstrated relationship between the data used and the performance intended to be estimated. Non-technological factors (*i.e.*, raw materials and fuel) must be considered in determining emission control achieved by best performers. It is within EPA's discretion to define the best performing sources.

• EPA should estimate variability in determining achieved emissions. The Agency can and must seek appropriate data from regulated entities and other stakeholders, and to develop appropriate fact-based estimating methodologies on the data available.

Response: EPA largely agrees with these general points and believes that it has adhered to these concepts in the final rule. EPA has also implored, and in many instances, compelled (through section 114 letters) industry to provide additional data to better gauge sources' performance.

Comment: A number of commenters including 2844 and 2845 argued that EPA should use an Upper Tolerance limit (UTL) rather than Upper Predictive Limit (UPL) statistical methodology to assess variability.

Response: EPA disagrees. An Upper Tolerance Limit is ordinarily utilized for large data sets and is intended to assure that predicted values are lower than a single highest observation. R. (Gibbons, Statistical Tolerance Limits for Ground-Water Monitoring,Vol. 29, No. 4, Ground Water, July–August, 1991) This methodology is intended to produce values that do not underestimate variability but for this reason tends to produce inflated predictions when applied to data sets containing multiple observations, which is the case for the MACT pools for each HAP in this rulemaking. This methodology would therefore overestimate performers' variability as applied in this rulemaking and EPA is therefore not utilizing it. EPA understands that they no longer regard use of UTL statistical methodology as necessitated here.

Comment: Several industry commenters (2832 and 2859) opposed the approach taken by EPA in its beyond-the-floor MACT analysis. Among other things, EPA failed to consider the creation of incremental greenhouse gas emissions associated with the construction, installation and operation of new emissions control equipment, and the minimal incremental environmental benefit associated with those controls. Also, EPA failed to consider the cost of carbon credit purchases by the industry.

Response: In all cases we declined to adopt beyond-the-floor standards based on consideration of costs, technical feasibility, and consideration of nonair environmental impacts. Evaluating other disbenefits for an option already rejected would have no purpose.

Comment: Many industry commenters (2830, 2845, 2846, 2855, 2858, 2859, 2879, 2887, and 2890) stated that CEMS are not a proven technology and should not be required to determine compliance.

Industry commenters 2588, 2844, 2845, 2846, 2858, and 2890 stated that EPA has no data showing that mercury CEMS are feasible on cement kilns and that emissions from cement kilns will likely be outside of the range of the current CEMS technology. The industry commenters stated that EPA must evaluate mercury CEMS through long-term field trials at cement plants in accordance with the proposed performance specifications and quality assurance procedures before imposing this regulatory requirement. The industry commenters proposed a mass-balance approach for monitoring, which is accurate and was used by EPA in setting the mercury standard.

Industry commenter 2855 stated that mercury sorbent trap monitoring systems have not been evaluated through long term field trials at cement plants in the United States (U.S.) in accordance with the proposed performance specifications and quality assurance procedures, so the reliability and performance of these measurement systems and the adequacy of the technical specifications cannot be determined.

Industry commenters 2855 and 2900 disagreed with EPA's interpretation of the operating experience with mercury CEMS in Germany. The industry commenters stated that mercury CEMS are inaccurate and difficult to maintain. Further, mercury CEMS operating in Germany are subject to monitoring regulations that are different than the U.S. regulations and are used in a different regulatory context than that proposed by EPA. The monitors used in Germany, or those available from other European or Asian manufacturers were not able to demonstrate acceptable performance in the Electric Power Research Institute (EPRI) Trimble County Mercury CEMS study.

Industry commenter 2855 stated that there is no legitimate technical basis on which to establish detailed performance specifications or quality assurance (QA) requirements for these CEMS. There is no legitimate technical basis to conclude that these CEMS could meet such requirements over any extended period when installed and operated at a cement plant. The industry commenter recommended that EPA evaluate the performance of mercury CEMS at cement kiln systems and acquire the information necessary to serve as the basis for technical specifications and requirements. After such information is available and analyzed, EPA should re-propose appropriate and demonstrated performance specifications and quality assurance procedures for mercury CEMS to monitor kiln and kiln/in-line raw mill mercury emissions.

Industry commenter 2855 disagreed with EPA's interpretation that mercury CEMS can be applied to the cement industry based on successful use on utility boilers. The commenter evaluated the following issues:

Number of Installations in the Utility Industry—There are 35–40 continuous mercury monitors (CMMs) installed and certified to date (not yet with a National Institute of Standards and Technology (NIST) traceable calibration source).

NIST Certification—In mercury CEMS certification requirements outlined in Performance Specification (PS)–12A, it states that all calibration and span gases must be NIST certified. The draft protocols were just released by NIST in July 2009. The major vendors of mercury CEMS are just now advertising NIST-certified calibration sources. Therefore, none of the mercury CEMS that have been previously installed are certified. NIST does not currently directly certify oxidized mercury calibrations. The Interim EPA Traceability Protocols now in place provide for certification of evaporative generators by certification of the individual components of the calibrator. Therefore, the language used in Section 7.0 that refers to a NIST trace oxidized mercury calibrator needs to be clarified or changed.

Difficulties Encountered in the Utility Industry—The industry commenter gave examples of power plants' difficulties with mercury CEMS.

Installation on Wet Stacks—Installing a mercury CEMS on a *wet* stack can result in problems: Plugging, corrosion, and buildup of solids. Although wet scrubbers are not currently common in the cement industry, under the proposed rule, they may be required to

a greater extent, and many of these same problems with mercury CEMS potentially could occur for the cement industry as well.

Data Output Requirements—There is no need for dry basis measurements under the proposed rule and the language in either Subpart LLL should be included to provide an exemption from this requirement for cement plants or PS–12A should be revised. This language needs to be clarified by EPA.

Cost—The industry commenter provided information about CEMS costs, estimating that if mercury CEMS were installed on all non-waste-burning U.S. cement facilities, the total capital costs would be approximately $45 million, with annual operating costs being about $25 million.

Industry commenter 2901 stated that CEMS should not be used as a compliance method for cement plants for the following reasons:

EPA reported in 1997 on an experiment where CEMS were installed on a cement kiln burning hazardous waste. The Agency found substantial problems regarding mercury CEMS measurement accuracy and precision, deciding not to require Mercury CEMS at cement plants. The industry commenter stated that the primary issue is whether there is a NIST traceable standard that can be used to calibrate the unit. Because compliance is based on the production rate and on using a 30-day average, it is difficult to know what range to calibrate these units.

The reliability of CEMS on cement kiln stacks has not been demonstrated in the U.S., where standards and requirements are different. Demonstrations in the U.S. at coal-fired power plants have different conditions than those at cement kilns.

There is no legal imperative for EPA to require CEMS. Under the CAA, EPA's monitoring requirements must provide a reasonable assurance of compliance with emission standards *Sierra Club* v. *EPA*, 353 F.3d 976, 990–991 (DC Cir 2004) (*Copper Smelters*) *citing Natural Res. Def. Council, Inc.* v. *EPA*, 194 F.3d 130, (DC Cir 1999).

Response: Several commenters questioned the applicability of current continuous instrumental gaseous mercury CEMS technologies to cement kilns. Several commenters also raised technical issues about specific performance criteria in Performance Specification 12A (PS 12A) for gaseous Hg CEMS and expressed concern as to the availability of National institute of Standards and Technology (NIST) traceable Hg gas standards. NIST has recently completed certification of a "NIST Prime" elemental mercury gas generator at concentrations of 41, 68, 85, 105, 140, 185, 230, 287, and 353 $\mu g/m^3$ and mercury gas generator vendors may now submit elemental mercury gas generators for certification to serve as "Vendor Primes". Therefore NIST traceable mercury gas standards can now be made available in concentrations that exceed the equivalent mass standards for both existing and new kilns by between one and two orders of magnitude, thus providing the capability to accurately report excursions well beyond either standard. We have provided responses to the comments on specific performance criteria regarding PS 12A in the response to comments document, and in several instances PS 12A has been revised in response to those comments. The Agency believes that the now revised PS 12A is fully capable of properly measuring the performance of gaseous Hg CEMS in many applications, including cement kilns.

Regarding the applicability of the current commercially available gaseous Hg CEMS to cement kilns, and to wet or high moisture stacks in particular, we have considered the potential physical and chemical characteristics of such kiln stacks and does not consider them to be substantively different from those of other source categories, particularly utility boilers, where technical solutions have been deployed to enable the successful application, certification, and operation of gaseous Hg CEMS. One of several U.S. Hg CEMS manufacturers advises they have now installed approximately 400 Hg CEMS units on coal-fired power plants to meet regulatory requirements, including some with flue gas desulfurization systems with the higher stack gas moisture levels typical of these systems. These installations have included performance guarantees for system certification and the manufacturer also indicated a willingness to guarantee the performance of their units on cement kiln stacks.

We recognize that each source will experience their own particular learning curve as with any new instrument, but if the source should experience an apparently insurmountable problem with a particular installation, they still have the option to either petition the Administrator for consideration of an alternative testing approach under § 63.7(f) or to monitor Hg using a sorbent trap monitoring system by Performance Specification 12B (PS 12B). We disagree with the comment that PS 12 B requires further demonstration. The same technology (Method 30B, 40 CFR Part 60, Appendix A) was successfully used on several cement kilns in the process of collecting data to establish the emission limits in this rule with good precision and accuracy, and has also been widely deployed in the data collection program for the current MACT rule development program for utility boilers. EPA also believes that the growing body of evidence of the successful use of Hg CEMS in the utility industry in the U.S. is further evidence that Hg CEMS can be used in the cement kiln industry. In addition to the knowledge regarding the use of Hg CEMS on cement kilns in Europe, EPA is aware of two instances where Hg CEMS have been installed on cement kilns in the U.S., with specific evidence of successful execution of seven day calibration drift checks, linearity (measurement error tests, as well as relative accuracy testing.

Comment: Industry commenter 2845 stated that EPA should require that compliance with HCl limits should be measured by periodic stack tests. Because the HCl floors were developed from HCl stack test data, the standard for HCl should be based on periodic stack testing. EPA must evaluate valid data from Method 321/ASTM D6348 stack tests instead of the data contained in Table 5 of the proposal. Using CEMS to measure compliance effectively makes the standard more stringent than what has been achieved by the best-performing sources. If CEMS compliance demonstration is retained, then the limit for CEMS compliance must be raised to reflect the added variability that will be measured by the CEMS. While continuous measurement will capture variability of emissions 24 hours per day, 7 days per week over the full range of process and control system operating conditions over the life of the plant and its associated quarry, the stack test is merely a snapshot in time. By definition, a stack test contains no parameter related to variability other than that obtained during the three hours of testing. In addition to the inherent variability of HCl emissions, a CEMS standard must also consider the inaccuracy of the CEMS as determined (and allowed) relative to the required stack test methods, the uncertainty of calibration standards/materials, and other factors affecting the sampling, transport, and analysis of HCl which is a highly reactive compound.

Response: HCl CEMS will be measuring HCl with the same technology that was used in the period stack tests (M321) used to set the standard. An allowance for variability has been built in through the process of setting the standard, including setting the standard based on the 99th percentile UPL and increasing the

standard to the practical quantitation limit of the analytic method.

Comment: Two industry commenters (2845 and 2859) said that EPA has not promulgated any regulations requiring PM CEMS at any source category due to its inability to address fundamental technical and policy issues and must resolve these issues through rulemaking before requiring PM CEMS at any cement plants. Furthermore EPA has not performed a legitimate technical analysis of emissions variability and compliance determination uncertainty to allow the use of PM CEMS for determining continuous compliance with a PM limit at cement plants.

The use of PM CEMS in Europe and other countries does not constitute a valid basis for application of PM CEMS at cement plants in the United States. Light scattering, light transmission, and extractive beta attenuation instruments are all inferential measurement devices and a correlation must be established to relate the device output to the actual PM concentration, then the accuracy and bias of the reference test and the uncertainty of the statistical correlation, as well as the stability of the correlation must be considered. Under the German TUV and the European monitoring standard (EN 14181) these uncertainties are considered; emissions are not considered to exceed the allowable limit until the lower bound of the confidence interval and/or tolerance interval exceeds the emission limit; emission standards may contain different averaging periods requiring different levels of conformance; and when a problem is encountered, the emphasis is on resolving the emission problem rather than direct enforcement and collection of financial penalties. All of these considerations place the European monitoring program in an entirely different regulatory context than the proposed PM monitoring requirements.

Response: We reject the industry commenters' assertions that PM CEMS have not been required via rulemaking because of unresolved fundamental technical or policy issues. Concerns about PM CEMS were identified and addressed prior to the January 2004 publication of Performance Specification 11 and Quality Assurance Procedure 2 for PM CEMS (69 FR 1786, January 12, 2004). As mentioned in that rule's preamble, "* * * we believe that the PM CEMS field demonstrations completed to date encompass a range of operating conditions and emission characteristics * * *" including those exhibited by sources such as cement kilns.

Moreover, we disagree with the assertion that our analysis of PM emissions variability is not legitimate, yielding an overly-stringent PM emissions limit. The PM limit is based on our analysis of PM emissions from test data, adjusted from an hourly to a 30-day averaging period and further adjusted for variability. As mentioned in the preamble to the Credible Evidence Rule (62 FR 8314, February 24, 1997), we have addressed and continue to address concerns about perceived "* * * limited number and distribution of test runs and the inherent variability in levels of emissions * * *" by a number of approaches, including changing emissions averaging periods.

Certainly a statistically-based adjustment to account for emissions variability, and which, in this case, increases the numerical value of the standard (and its longer averaging period) by fifty percent, does not make the standard more stringent.

Finally, the continuous collection of data used to assess compliance with this twice-adjusted standard does not create a limit more stringent that otherwise allowed. As discussed in the preamble to the Credible Evidence Rule, "* * * continuous monitoring of the standards (has) no effect on the stringency of the standard * * *" (62 FR at 8326, February 24, 1997).

Rather, consistent with the rulemaking description process given in Section 4.1.1 of the Credible Evidence Rule Response to Comment Document, we used our "* * * judgment, based on available information, to establish emissions standards at (appropriate) levels where the standards can be met on a continuous basis by a well operated and maintained source that employs best demonstrated technology * * *"[44]

Comment: Two industry commenters (2845 and 2859) had the following comments concerning technical issues associated with application of PM CEMS. EPA has not addressed nor resolved the primary technical issues limiting the effective application of PM CEMS at cement plants including:

- Inability to generate a sufficiently wide range of PM concentrations to establish an acceptable correlation (*i.e.*, calibration),
- Accuracy and precision limitations of reference method at PM levels necessary to generate valid correlation, and
- Subsequent changes in effluent matrix and/or PM (*i.e.*, particle size distribution, refractive index, particle density, *etc.*) that influence the stability of the correlation and hence, the relationship between the output of the inferential measurement device relative to actual PM concentration.

Valid PM CEMS correlations cannot be established for PM CEMS at cement plants due to limitations of process operation and control equipment in conjunction with the proposed emission limitation. The requirements in Appendix A, PS–11 for the PM CEMS correlation and in Appendix F, Procedure 2 do not provide a sufficiently reliable means to determine compliance with emission limitations.

Response: We have not identified problems cited by the commenters at existing installations. In fact, PS–11 and Procedure 2 are working well. We note that PS–11 has several features to address correlation issues. For example, PS–11 provides for the addition of a zero point, which enhances the ability to provide a calibration. We note that PS–11 has several features to address correlation issues due to any limitations of process operation and control equipment. PS–11 provides for the addition of a zero point. For example, if control equipment operations cannot be varied adequately to achieve higher PM concentrations, resulting in a cluster of data points at a very low level and making it difficult to achieve PS–11 criteria, then an artificial data point may be selected at zero that allows the correlation curve to be developed that meets the correlation criteria. It also strongly suggests the use of paired trains to insure that accuracy and precision is obtained. Changes in the effluent matrix could potentially be a problem with light scattering technologies but this has not been shown to be a problem with existing installations. This would not be a problem with beta attenuation monitors. Factors that influence the stability of the correlation are addressed in Procedure 2 (40 CFR, Appendix F). Procedure 2 describes the required audits to insure that subsequent measurements are stable and within acceptable limits, thereby ensuring reliable and stable compliance measurement data.

Comment: Two industry commenters (2845 and 2859) had the following comments concerning PS–11 and Procedure 2. The requirements at § 63.1349 for PM CEMS are incomplete and ambiguous and EPA has failed to specify important QA frequencies and other information relevant to the implementation of PM CEMS in accordance with PS–11 and Procedure 2. The proposed Subpart LLL revisions fail to address critical elements including the following sections of PS–11 and Procedure 2:

[44] See Section 4.1.2.1 of the Credible Evidence Rule Response to Comment Document, available at *http://www.epa.gov/ttncaaa1/t1/fr_notices/certcfin.pdf.*

• PS–11 3.20, species reference method as method defined in applicable regulations (Method 5 with 250 °F filtration temperature) but this is inadequate for low concentrations where Method 5I should be used, and is inapplicable to sources with PM that condenses between the stack temperature (mill on and mill off, if applicable) and 250 °F where Method 17 should be used or ASTM D 6831.

• PS–11, 6.2 You must ensure that the averaging time, the number of measurements in an average, the minimum data availability, and the averaging period for your CEMS conform to those specified in the applicable regulation—but none are specified.

• When using PS–11, 6.5 Your CEMS must sample the stack effluent such that the averaging time, the number of measurements in an average, the minimum sampling time, and the averaging procedure for reporting and determining compliance conform to those specified in the applicable regulation—but none are specified.

• Procedure 2, 10.3 You must conduct a response correlation audit (RCA) and a relative response audit (RRA) at the frequency specified in the applicable regulation * * * but none are specified.

• Procedure 2, 10.3, You must perform an RRA at the frequency specified in the applicable regulation * * * but none is specified.

• When using Procedure 2, 10.3(7) You must perform an RCA at the frequency specified in the applicable regulation * * * but none is specified.

• When using Procedure 2, 10.9 You must report the accuracy results for your PM CEMS at the frequency specified in the applicable regulation * * * but none is specified.

Response: We recognize that PS–11 does not specify a reference method; we have revised the final rule to specify Method 5 or Method 5I (40 CFR part 60, appendix A) as the reference method. Facilities with issues in application of these reference methods, may petition the Administrator for alternatives or modifications under § 60.8(b) or § 63.7(f). The averaging times and data reduction specifications have been added to §§ 60.63(c) and 63.1350(b) of the rule. There are no specific data availability requirements, §§ 60.63(g) and 63.1348(b) require that monitoring be conducted at all times the affected source is operating except for periods of monitoring system malfunctions, repairs, or quality assurance/quality control activities. The language of the final rule has been revised to specify the frequency of the Relative Response Audits (annually) and the Response Correlation Audits (every three years), for specifics, *see* §§ 60.63(c)(2) and 63.1350(b)(2). Absolute Correlation Audits are required by Procedure 2 on a quarterly basis.

Comment: One environmental advocacy group commenter (2786) stated that EPA should not eliminate opacity standards in the proposed rule. The commenter stated that there are benefits to having an opacity standard in conjunction with a particulate matter standard. Opacity measurements can be made by anyone who is trained to measure opacity, which can include members of the public and not just inspectors, and opacity measurements are a cheaper method of getting more frequent measurements.

Response: We disagree. Given the sensitivity of the BLD and PM CEMs, we find the opacity requirements to be redundant.

Comment: One environmental advocacy group commenter (2898) stated that EPA should require PM CEMS and retain the opacity monitoring requirements. EPA is proposing installation and operation of a BLD system, along with stack testing using EPA Method 5 conducted at a frequency of five years for demonstrating compliance with the proposed PM emissions limit. As an alternative, a PM CEMS that meets the requirements of PS–11 may be used, and EPA is proposing to eliminate the current requirement of using an opacity monitor. The proposed rule solicits comment on making the use of a PM CEMS a requirement. The commenter stated that EPA should both require CEMS and retain the use of opacity monitors.

EPA should abandon the BLD system requirement outlined in the proposed rule and mandate the use of PM CEMS instead. The agency previously concluded that PM CEMS is a superior monitoring technology that can be implemented at a reasonable price. EPA has found that BLD systems, standing alone, are inadequate to verify compliance and has also found that continuous opacity monitors (COMS) operate as a useful check on PM emissions and proper operation of PM CEMS.

Providing a superior level of compliance assurance is not the only benefit of PM CEMS. EPA has acknowledged that the assumptions to assure compliance are fewer and less conservative (direct measure of the standard is the top of the monitoring hierarchy), CEMS mean facilities need to monitor only one emissions parameter to assure compliance rather than multiple operating limits, often relevant to more than one standard, and that the cost of installing PM CEMS technology is reasonable.

Response: We would support the use of multi-metal CEMS, should they become available. We have not yet seen evidence that COMS are well-suited for continuous compliance as are BLD or PM CEMS, so that requiring their use as a backup system would add monitoring costs to no special environmental benefit.

Comment: Several industry commenters (2832 and 2859) opposed the proposed requirement to install CEMS in order to satisfy compliance assurance monitoring (CAM) for selected pollutants. Instead, the commenter proposed that CAM requirements be satisfied using periodic stack testing to the extent that stack testing is requested or required by State air permits. According to EPA's proposal, the MACT floor for new and existing sources in this industry will be determined by stack testing results of sources within the MACT pool. If EPA were to finalize a numeric emissions limitation based on this approach to setting the new and existing MACT floors, that limitation will be based on the same stack testing data. CEMs will have played no role in this process. It stands to reason that compliance assurance should be based on stack testing results, and not a CEMS data that has played no part in this process.

One industry trade association commenter (2916) stated that EPA can achieve a reasonable assurance of compliance without the use of CEMS. The requirement to use CEMS is unreasonably costly and unnecessary, given that other reliable means of showing compliance are available for all relevant pollutants. Raw material sampling and kiln parametric monitoring, in conjunction with periodic testing, would work well for THC and HCl. The sorbent trap method for mercury is a good alternative to mercury CEMS and should be retained in the final rule. EPA should refrain from requiring PM CEMS in the final rule. Bag leak detection systems and parametric monitoring of ESPs are proven methods for assuring ongoing compliance with PM limits.

Response: We disagree. In the case of THC, emissions may change significantly due to a process change without any advance indication. In addition, the THC emission limits were established using data from CEMS, and the standard itself is a 30-day average, requiring 30 monthly measurements (only practically obtainable with a CEM). Therefore, CEMS are the obvious

compliance assurance choice. In the case of mercury emissions, short term test data do not necessarily reflect the long term emissions. In addition, the performance of the available mercury controls may be significantly affected by operational factors. To devise a test plan to clearly establish the performance of mercury control under all conditions would be difficult, and for that reason it would be difficult to establish the proper control device operating parameters and operating limits. Therefore, mercury CEMS are essential in demonstrating continuous compliance with the mercury emissions limits. If the facility does not have a wet scrubber, changes in raw materials, or fuels could significantly increase emissions without any indications unless a CEMS is used.

B. What are the significant comments and responses on 40 CFR part 60, subpart F?

Comment: Several State and environment advocacy group commenters (62, 65, and 69) objected to EPA not proposing standards for greenhouse gas (GHG) emissions under the proposed NSPS. One State commenter (62) criticizes EPA's decision to not propose any NSPS for GHG emissions from Portland cement plants. The commenter states that even though the Courts have confirmed that GHGs are air pollutants subject to regulation under the CAA, EPA has not issued any such standards, instead issuing an Advance Notice of Proposed Rulemaking (ANPR) that seeks public comment on whether to regulate GHG emissions under the CAA at all. State commenter 62 protests this course of action, and requests that EPA revise the proposed rule to include NSPS for GHG emissions.

According to State commenter 62, EPA's failure to propose NSPS for GHGs in the proposed rule violates section 111 of the CAA (42 U.S.C. 7411), which requires EPA to determine whether GHG emissions emitted by cement plants may endanger public health or welfare, and to promulgate NSPS for each air pollutant emitted by cement plants that contributes significantly to global warming pollution. The State commenter states that as the second largest industrial source of carbon dioxide emissions in the United States (emitting 45.7 million metric tons of carbon dioxide in 2006), the cement industry contributes significantly to GHG emissions and there can be no serious dispute that GHG emissions endanger public health and/or welfare. The ANPR that EPA issued instead is no substitute for action and does not commit to regulating GHG emissions from any source. State and environmental advocacy group commenters 65 and 69 submitted several exhibits in support of their comments. A summary of the comments is presented here. To review the entire comment, please refer to the comment at *www.regulations.gov*. The State and environmental advocacy group commenters state that:

- EPA is required by section 111 to promulgate NSPS for all pollutants emitted by a regulated source category including CO_2 emission from cement plants and EPA's assertion that section 111 does not compel the agency to regulate CO_2 emissions is contrary to the Act's plain language.
- Congress has expressly directed that NSPS address the emissions of "any" air pollutant, a term that plainly encompasses CO_2.
- At a minimum, in directing that NSPS be established for sources that cause, or contribute significantly to air pollution which may reasonably be anticipated to endanger public health and welfare, Congress showed that it meant to require limits on emissions of any pollutants that cause or contribute to such endangerment. Because cement plants emit CO_2 in such amounts that those emissions significantly contribute to "air pollution which may reasonably be anticipated to endanger public health or welfare," EPA is legally required to issue standards of performance limiting those emissions. EPA cannot rationally assert that cement plant CO_2 emissions do not meet these criteria, and the Agency's refusal to promulgate standards of performance is therefore unlawful.
- EPA's contention that it can refuse to regulate CO_2 emissions on the basis of interactions with other CAA provisions is impossible to reconcile with section 111, because that section clearly contemplates that EPA will adopt standards of performance covering pollutants that have not previously been subject to regulation under the Act.
- Cement plants' emissions of CO_2 cause, or contribute significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare and significantly contribute to global climate change.
- There are existing technologies that can reduce emissions of CO_2 from cement plants. In addition to the suggested technologies, other measures that would also have CO_2 reduction benefits include shifting from high carbon content fuels, such as coal, to lower carbon content fossil fuels, such as natural gas.
- Section 111(d) of the Act provides that EPA shall require States to implement and enforce standards of performance for existing sources when the pollutant at issue is not regulated as a criteria pollutant or hazardous air pollutant.
- EPA must also consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service to insure that the final rule is not likely to jeopardize recently-listed endangered species.

Response: Due to issues related to the regulation of GHGs under the CAA, no standards of performance for GHGs were included in the proposal and none are being included in the final amendments. Promulgating a standard without first proposing it does not follow the accepted process of proposal and public comment that is required of EPA rulemakings. Also, we have not gathered the information we need on GHG emissions and control strategies for the Portland cement industry. EPA's decisions and plans for regulating GHG from this industry are discussed earlier in this document (*see* section IV.B.1.g).

Comment: Several private, State and environmental advocacy group commenters (59, 60, 63, 68, 70, 71, 72) approve of the proposed limits for NO_X or believe more stringent limits are appropriate. One private commenter (59) states that the proposed standard is unjustifiably high, and will allow for greater NO_X emissions than can be achieved with the installation of off-the-shelf pollution control technology. The commenter recommends a standard of no greater than 0.5 lb NO_X/ton clinker and states that SCR is an effective and proven technology to reduce NO_X emissions from cement kilns and can reduce NO_X emissions from cement kilns by greater than 90 percent, consistent with what has been observed with SCR in other industries. According to the private commenter, SCR can achieve this performance with cost-effectiveness of approximately $1,500–$3,800/ton NO_X, easily within regulatory cost thresholds for many NO_X control programs. Regarding concerns over dust and plugging, the commenter cites three recent installations of SCR on cement kilns that show that SCR vendors can properly design and install units which manage the dust and successfully operate for many years. The commenter stated that numerous SCR companies believe that they can design and supply SCR systems for NO_X control at cement plants where they will have to guarantee performance levels in legal contracts, and thus they would be at significant financial risk to advertise and sell an SCR system that was actually going to fail. The effectiveness

of the technology to reduce NO_X and other pollutant emissions from cement kilns, as demonstrated by the SCR installations on cement kilns in Europe and the numerous SCR installations on other heavy industries like coal-fired power plants and waste incinerators, is supported by the marketing, technical assessments, and reports prepared by numerous experts on this subject, including: Three (3) cement companies, five (5) SCR manufacturers, an independent blue ribbon panel, the U.S. EPA (twice), and the European IPPC. State commenter 68 believes that EPA's proposed NO_X limit of 1.5 lb/ton clinker underestimates the reductions that are achievable with SCR technology and recommends that SCR be identified as BDT for this sector and is "the regulated future" for cement kilns. The commenter states that the agency has noted that hybrid combinations of SNCR and SCR could be used in new cement kilns to achieve greater reductions than would be possible with SNCR alone. SCR is also named by EPA as available technology for cement kilns in the Regulatory Impact Analysis for the Final Clean Air Visibility Rule or the Guidelines for Best Available Retrofit Technology (BART) Determinations Under the Regional Haze Regulations. As far back as 1999, EPA included SCR in a list of control technologies available for both dry and wet cement manufacturing processes, as did a Pechan & Associates Report prepared for EPA's Office of Air Quality Planning and Standards in September 2005. Therefore, SCR technology for the cement manufacturing sector has been considered feasible technology by EPA for some time.

One State commenter (60) states that the NO_X emission limit should be lowered to 1.0 lb/ton of clinker on a 24 hour rolling average for new PH/PC kilns and a limit added of 2.0 lb/ton of clinker on a 24-hour rolling average if reconstruction or modification of the kiln commences after June 16, 2008, and the final configuration is a long wet kiln or a long dry kiln. The State commenter states that the recommendations regarding PH and PH/C kilns should apply equally to projects at greenfield sites and brownfield sites stating that many of the advances in NO_X control in the U.S. and Europe have been made at brownfield sites whether they have involved new kilns or reconstruction or modification of existing kilns.

To support the State commenters recommended limits for NO_X, the commenter provided the following information and included several supporting documents as attachments to the comments:

- A long-term value of 1.46 pounds per ton (lb/ton) of NO_X clinker was achieved with no add-on control equipment when not accounting for slag use and 1.38 lb/ton when accounting for slag use at TXI Kiln 5 (a PH/C kiln) in Midlothian, Texas.
- A long-term value of 1.98 lb/ton was achieved with no add-on control equipment at Cemex Sta. Cruz (a PC/H kiln) in Davenport, California. The project involved an improvement to an existing calciner (commissioned in 1997) on an existing kiln to comply with an existing NO_X limitation.
- Titan America (a PH/C kiln) in Medley Florida and Giant Cement in South Carolina where average values of 1.62 and 1.88 lb NO_X/ton were documented for new kilns with no add-on control equipment at brownfield sites.
- The results from the existing SCANCEM (an affiliate of Lehigh) Skövde PH kiln where emissions were reduced from 4.4 lb NO_X/ton (1995) by installation of a SNCR system and which achieved 0.72 lb/ton in 2005.
- The results from the existing SCANCEM Slite PH/C kilns where emissions were reduced from 4.0 lb NO_X/ton (1995) by installation of an SNCR system and which achieved 1.01 lb/ton in 2005.
- The results from the existing Radici Cementeria di Monselice PH kiln where emission reductions to values as low as 0.20 lb NO_X/ton were demonstrated by installation of a SCR system. The supplier guaranteed reduction of 90 percent and realized reductions as high as 97 percent.

State commenter 60 states that based on the foregoing, reductions on the order of 75 percent are achieved by well-designed SNCR systems and 90 percent by SCR. Given that a new kiln can be designed such that emissions can be controlled to values between 1.5 and 2 lb/ton before add-on control, 1 lb/ton is achievable by SNCR. Given a kiln with less sophisticated design or particularly difficult raw materials achieving 3 to 5 lb/ton, SNCR or SCR or a combination of the two can reduce emissions to values much less than 1 lb/ton. The commenter states that the proposed averaging time of 30 days is a tremendous concession to the industry. The availability of reagent injection makes it easier to achieve the proposed standard on a 24-hour basis. The lowest permit limit for a project under construction in the United States applies to the Drake Cement in Arizona. The value is equivalent to 1.14 lb/ton on a 24-hour basis. A contract was awarded to F.L. Smidth who developed the calciner that achieves 2 lb/ton or less at TXI, Titan and Cemex as discussed above. The limit will be achievable using an SNCR system.

State commenter (60) states that because long wet and long dry kilns use much more energy to make a ton of clinker, a higher NO_X limit may be acceptable for these kilns. State commenter 60 agrees with EPA's assumption that new projects triggering the NSPS will actually result in a PH/C kiln. A project that might trigger a prevention of significant deterioration (PSD) review at a long kiln will probably incorporate emissions control measures to avoid PSD and a BACT determination for NO_X and SO_2. The measures to avoid PSD will also likely avoid the short-term emissions increases that would otherwise trigger the NSPS.

Finally, with respect to the reconstruction provisions, it is not likely that a company will actually invest 50 percent of the value of an existing long kiln without taking the opportunity to make it much more energy efficient through conversion to a PH/C kiln. The State commenter states that a separate standard for long kilns will avoid the unnecessary relaxation of the limits applicable to PH and PH/C kilns. The State commenter listed the following NO_X reduction technologies that have been demonstrated for long kilns and submitted supporting documentation as attachments to the comment:

- Conversion from direct to indirect firing in conjunction with the installation of a multi-channel (Low NO_X) burner;
- Mid-kiln fuel injection (including tires);
- Near mid-kiln pressurized air injection;
- SNCR at long kilns; and
- Combination of SNCR with air injection.

One State commenter (63) described the advances in technology for controlling NO_X emissions, especially SNCR and SCR, from Portland cement plants, and requests EPA consider the technological improvements and their applications when establishing NO_X emission limits. The State commenter states that EPA continues to play a crucial role in encouraging innovation and in mobilizing supply chains to deliver technologies that improve our air quality and environment including the continued tightening of emission limits. This encourages the industries such as the cement industry to work closely with equipment and component suppliers to ensure significant reductions in emissions in a timely and economical manner. The commenter states that with the improved processes

that lower uncontrolled NO_X emissions and with the addition of SCR, NO_X limits of 0.25–0.5 lb NO_X/ton clinker are achievable.

One State commenter (70) supports the proposed level for new, modified and reconstructed kilns of 1.50 lb/ton of clinker for NO_X. Facilities can meet the 1.50 lb/ton of clinker for NO_X, with SNCR alone or with SCR (either as a supplement or as an alternative to SNCR).

One State commenter (71) states that if new or modified systems would likely use the preheater/precalciner configuration, then what is achievable must be looked at and then apply the effect of the controls. If this approach is followed, the appropriate NO_X emission limit should be in the range of 1.14 lb/ton of clinker. According to State commenter 71, the traditional long dry cement kilns can attain a NO_X emission level of 2.73 lb/ton of clinker without utilizing SNCR control technology. Based on an SNCR control efficiency of 50 percent, a NO_X emission level of 1.3 lb/ton of clinker is achievable. As a result, cement kilns with SNCR control technology can achieve a NO_X emission level between 1.14 and 1.3 lb/ton of clinker. However, this State commenter believes that the NO_X emission level from cement kilns can be further reduced by utilizing SCR control technology. State commenter 71 states that EPA dismisses the SCR technology used in Europe and concedes that some mechanical problems were experienced in the early stages with plugging but these problems were resolved and the system remained in service for four years at the Solnhofen facility in Germany. According to the commenter, waste disposal should not be an issue because the spent catalyst could be added to the process as a source of alumina. State commenter 71 previously conducted a Best Available Retrofit Control Technology (BARCT) assessment for a cement plant in our area and recommended SCR as the BARCT for this facility.

One environmental advocacy group commenter (72) states that the NSPS emission rate for NO_X from cement plants should be lowered to 0.5 lb/ton of clinker on a 24 hour rolling average because of the ability of current plant designs to achieve very low rates of NO_X emissions without the addition of add-on pollution controls. Currently available add-on controls can reduce NO_X emission levels below the proposed 1.5 lbs of NO_X per ton of clinker. There is a considerable operational experience with SNCR that shows it's capable of reducing NO_X emissions to 1 lb or less/ton of clinker when combined with a modern-designed kiln. SCR has been demonstrated in the utility industry and Europe and can further reduce emissions.

Response: The starting point for the NO_X limit was the emission level that could be achieved with no add-on control device for NO_X. To achieve the lowest NO_X levels without add-on controls involves the use of state-of-the-art combustion technologies in conjunction with PH/PC kilns. In developing the proposed limits for NO_X, we used emissions data showing that three recently permitted kilns had achieved average NO_X levels of 1.62, 1.88, and 1.97 lb/ton of clinker through the use of combustion technologies such as low-NO_X burners and staged combustion in the calciner (SCC). We assumed that through advanced combustion technology, an emission level of 2.5 lb/ton of clinker was generally achievable. Following proposal, commenters supporting the limit, commenters recommending lower limits, and commenters recommending higher limits submitted additional data on NO_X emissions from U.S. kilns as well as kilns operating in other countries. The data are summarized below.

TABLE 9—CEMENT KILN NO_X EMISSIONS DATA

Kiln	Kiln type	Process controls	Add-on controls	NO_X emissions before add-on control (lb/ton clinker)
TXI, Midlothian, TX, Kiln 5 (2003)	PH/PC	LNB, slag	None	1.38
		LNB	None	1.46
Cemex, Santa Cruz, CA (2006–2007)	PH/PC	SCC	None	1.98
Titan America, Medley, FL (2007, 2008)	PH/PC	SCC	None	1.62
Giant Cement, Harleyville, SC (2006, 2007)	PH/PC	SCC	None	1.88
TXI Riverside, CA	Long Dry	Combustion, Process	None	1.5
	Long Dry	Combustion, Process	None	1.5
Lafarge Sugar Creek, MO (2004–2005)	PH/PC	LNB, SCC	None	3.58
Lafarge Calera, AL (2006–2007)	PH/PC	LNB, SCC	None	2.06
Lafarge, Alexandria, Egypt (2007)	PH/PC	LNB, SCC	None	2.03
Lafarge, Richmond, Canada (2007)	PH/PC	LNB, SCC	None	2.64
Lafarge, Port La Nouvelle, France (2007)	PH/PC	LNB, SCC	None	2.65
Lafarge, Ewekoro, Nigeria (2007)	PH/PC	LNB, SCC	None	3.38
Lafarge, Kujawy, Poland (2007)	PH/PC	LNB, SCC	None	3.4
Lafarge, Harleyville, U.S. (2007)	PH/PC	LNB, SCC	None	3.48
Lafarge, Tetouan, Morocco (2007)	PH/PC	LNB, SCC	None	4.07
			AVG	2.41

The average uncontrolled NO_X emissions for the listed kilns are 2.4 lb/ton of clinker. If the result for the long dry kiln is removed, the average is 2.5 lb/ton. This result is consistent with the baseline NO_X level used by EPA in the development of the proposed NO_X limits. To allow for variations in process, fuel or feed, EPA selected a baseline level of 3.0 lb/ton of clinker.

To arrive at the emissions limit for NO_X, we evaluated two add-on control technologies for BDT: SNCR and SCR. EPA agrees that SCR is a promising technology for the control of NO_X emissions from Portland cement plants. The Agency also agrees that SCR is an attractive control alternative in that it has the advantage of reducing emissions of other pollutants in addition to reducing NO_X by 80 to 90 percent. However, although SCR has been demonstrated at a few cement plants in Europe and has been demonstrated on coal-fired power plants in the U.S., the Agency is not satisfied that it has been

sufficiently demonstrated as an off-the-shelf control technology that is readily applicable to cement kilns. The experience with SCR use on coal-fired power plants in the U.S. is not directly transferrable to Portland cement plants with the main difference being the lower dust loadings at power plants than would occur at cement plants. (Note this is not an issue for CEMS because they can be located downstream of the PM controls.) The experience at European kilns showed long periods of trial and error before the technology was operating properly. In particular, problems with the high-dust installations and the resulting fouling of the catalyst were problematic. This and other problems were eventually overcome, although at one of the early facilities to add SCR, the use of the SCR was discontinued in favor of a selective noncatalytic reduction (SNCR) system while the facility owners and operators gathered additional data to assess the advantages and disadvantages of the SCR system in comparison to the SNCR system.

State commenters also noted that it would be possible to combine SNCR and SCR technology on the same kiln, thereby significantly reducing the amount of catalyst required. This could reduce the problem with catalyst fouling. We see no technical impediment to combining SNCR and SCR technology. But at the same time we have no data on this combined system to assess its effectiveness or potential for catalyst fouling.

At this time we therefore do not agree with the commenters that SCR can be considered best demonstrated technology and as a result have not established a NO_X emission limit based on that technology.

We determined SNCR to be BDT and applied a control efficiency for the SNCR to the baseline uncontrolled level to determine the appropriate NO_X level consistent with application of BDT. As discussed in the preamble to the proposed rule, SNCR performance varies depending on various factors, but especially the normalized molar ratio (NMR), or the molar ratio of ammonia injected to NO_X- higher removal efficiencies are associated with a higher NMR. SNCR performance has been shown to range from 20 to 80 percent NO_X removal. At proposal we used an efficiency of 50 percent as representative of SNCR performance on average. Since then, additional information on SNCR performance has become available including data supplied by State commenters as well as a 2008 report by the Portland Cement Association. These data are summarized below. Reported removal efficiencies range from 25 to over 90 percent. According to a 2008 PCA report, ammonia slip occurs at molar ratios generally above 1.0. The graph below illustrates the relationship between the ammonia molar ratio, or NMR, and the performance of SNCR. EPA also examined the data to determine if uncontrolled NO_X emissions affected SNCR performance since SNCR performance has been shown to improve with higher uncontrolled NO_X levels, but the data here did not show any effect between initial NO_X concentration and SNCR performance. Using the data below, the average removal efficiency of SNCR is 60 percent. Thus, EPA believes the 50 percent removal efficiency used to establish the NO_X emission limit is a reasonable estimate of the SNCR performance that allows for an operating margin considering reasonable worst-case conditions that can be expected within the industry or source category as a whole. This operating margin should be sufficient to allow facilities where a greater than 50 percent reduction may be necessary to meet the 1.5 lb/ton clinker limit to increase ammonia injection to achieve greater than 50 percent reduction without causing ammonia slip.

TABLE 10—SNCR NO_X REMOVAL EFFICIENCY

Kiln	NO_X emissions before SNCR (lb/ton clinker)	NO_X emissions with SNCR (lb/ton clinker)	Removal efficiency (%)	Ammonia molar ratio
SCANCEM Skovde, Sweden (1995,2005)	4.4	0.7	84	1–1.2
SCANCEM Slite, Sweden(1995,2005)	4.0	1.0	75	1.2–1.4
Ash Grove, Durkee OR (1994 test)	4.75	1.0	> 80 for most	.....
Suwannee American (2008)	Not reported	1.4	.....	.....
Florida Rock	3.1	1.7	47	0.1–0.65
1	3.8	2.2	42	0–1
2	7.0	3.2	55	0.7
3	4.3	3.0	30	0.7
4	4.6	2.3	50	0.7
5	4.0	2.0	50	0.6–0.7
6	3.8	2.9	25	.....
6	4.0	2.4	40	0.25
7	4.0	2.0	50	0.5
7	3.4	1.7	50	0.5
7	3.6	0.9	75	0.8
8	3.2	0.6	81	1
8	5.0	0.4	92	1.0–1.2
9	5.0	1.1	78	1.0–1.2
	.....	0.9	80–85	1.2–1.4
AVG.	4.2	1.7	60	.....

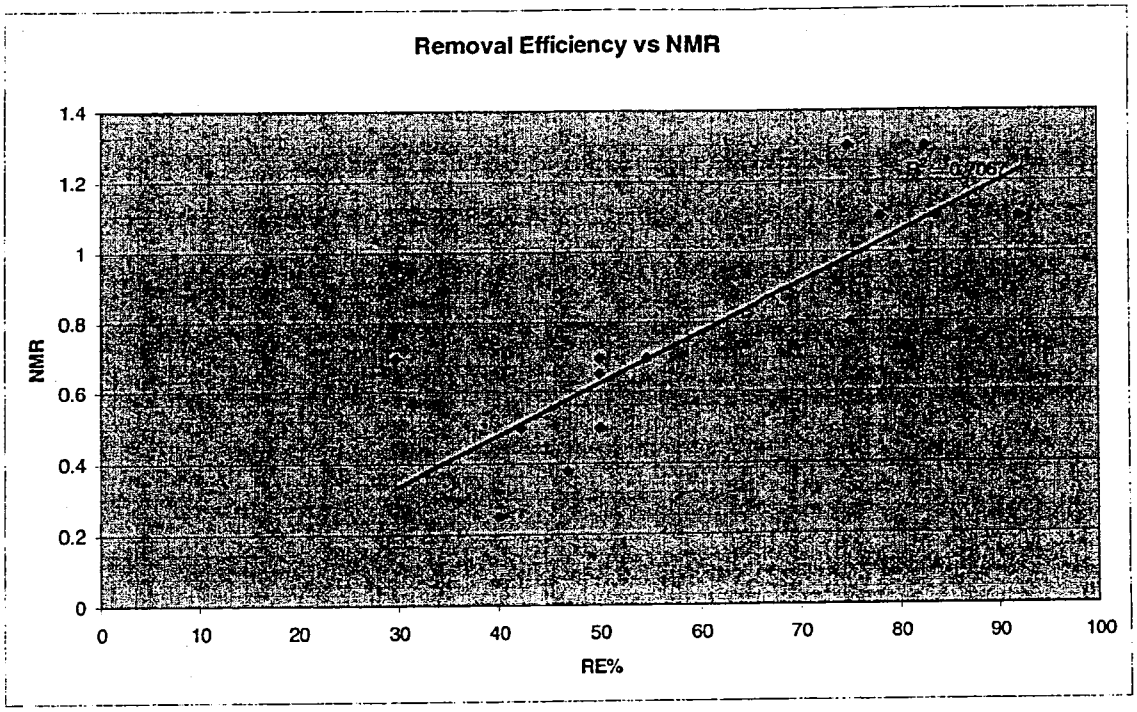


Figure 2, NOx Removal Efficiency vs. NMR

Comment: Several industry commenters (64, 73, 74, 75, 76, 77, 78) commented on the difficulty of consistently achieving the NOx limit of 1.5 lb/ton clinker limit over time and at all new kiln locations and favored a higher limit or no limit. They state that it is important to note that consistent, long term compliance with this proposed limit may be difficult to achieve and there will be instances where compliance may not be possible at all. According to the industry commenters, different factors can influence NO_X emissions such as:

(1) *Fuel type/quality*—Lower volatility solid fuels such as petcoke produce higher NO_X emissions. Also, any problems with fuel quality as delivered to the plant can have a negative impact on NO_X emissions;

(2) *Raw mix burnability*—Harder burnability will give higher NO_X emissions. Burnability is dependent on raw mix chemistry, fineness, and chemical deviation (impacted by homogeneity and operation of the quarry, which can vary over extended periods of time);

(3) *Kiln bypass system*—The size of the bypass for a given plant (if needed), and consequently the bypass emissions, depends on the chemistry of the raw mix and fuel(s) and the product standards that must be maintained to comply with regulations;

(4) *Size/type of the preheater*—New in-line calciners will normally give the lowest NO_X emissions; however, in cases where the type of fuel(s) used dictates the need for a separate calciner (such as may be applied to utilize waste materials), NO_X emissions will be higher. In addition, sometimes a new project will consist of upgrading an existing pyro system. In many of these cases the layout of the existing equipment is such that it cannot be modified to perform as well as a brand new calciner system, and will therefore have higher NO_X emissions;

(5) *Sub-standard operation and maintenance of the kiln system*—This is the responsibility of the cement producer, but it is also expected that NO_X emissions will increase slightly over a typical campaign between annual maintenance stoppages due to normal "wear and tear" of the system; and

(6) *SNCR efficiency and slippage*—The ability of an SNCR system to reduce NO_X emissions is not the same for all systems, especially for an existing pyro system that has been upgraded (due to potential lack of an optimum injection point) or a very large pyro system (due to lack of optimum mixing of ammonia and preheater gas).

One industry commenter (75) states that although the removal efficiency of SNCR can theoretically be improved by increasing the quantity of ammonia injection, there is a practical limit to this approach. As ammonia injection rates increase, the potential formation of a secondary plume due to "ammonia slip" increases. In addition, sulfur in the raw materials results in SO_2 and SO_3 in the exhaust, which decreases the efficiency of ammonia injection and leads to operational issues such as solids accumulation and plugging downstream of the SNCR. As the industry commenter noted in the permit application for its proposed kiln, facilities with lower BACT emission limits are also those facilities with lower sulfur raw materials, notably plants located in Florida, thereby improving the efficiency of SNCR. Given the baseline NO_X emissions expected at a new plant, industry commenter 75 would need a control level of at least 70 percent to meet the proposed limit of 1.5 lb/ton. Industry commenter (75) is not confident that this can be done with SNCR. Therefore, the industry commenter recommends that the NO_X standard be established at 1.95 lb/ton, which reflects a level of control achievable with the use of SNCR by all facilities without introducing the negative effects associated with pushing for high control levels.

One industry commenter (76) states that assuming a facility is already operating with best combustion practices (*i.e.*, indirect fired fuel supply systems, low primary air burners, *etc.*) then the burnability of the raw mix has

the greatest single impact on NO_X emissions. Statistically speaking, most preheater precalciner cement kiln plants worldwide emit an uncontrolled NO_X emission of 3.8 to 4.2 lb NO_X/ton of clinker. With a 50 percent NO_X reduction rate from the application of SNCR technology, a controlled emission rate of 1.9 to 2.1 lb NO_X/ton of clinker could be expected for most kilns. As such, a 1.95 lb NO_X/t clinker limit for all new kiln applications seems achievable. The issues arise when people arbitrarily apply the 50 percent reduction potential of SNCR to lower baseline emission numbers. (*i.e.*, at a 3.2 lb NO_X/ton of clinker uncontrolled emission, SNCR could reduce it to 1.6 lb NO_X/ton of clinker). While this might be true on an isolated case basis, it would be unwise to approach such a low level for a new NSPS limit for all new kilns because of the issue of burnability. In some cases it might be possible to reduce the baseline NO_X levels with integrated control systems, such as Multi-Stage Combustion (MSC) installed on low NO_X calciner system; but here again, the practicality of sustaining stable, continuous operation while simultaneously reducing the baseline NO_X by 10 to 30 percent is very site specific. Industry commenter 76 believes that a controlled emission rate of 1.95 lb NO_X/ton of clinker can be achieved by all new kiln applications providing SNCR is used as the principle measure to control NO_X emissions, but excluding that portion of gases that may be extracted through a bypass system.

One industry commenter (77) believes that under the worst-cast combinations of raw materials, fuels and cement specifications and with the application of SNCR technology, a controlled emission rate of 2.0 lbs of NO_X per ton of cement clinker can be achieved by all new kiln applications. However, if the kiln must incorporate a bypass for alkalis, chlorides or sulfur, the NSPS limits must allow for increased NO_X emissions on a plant by plant basis due to the fact that bypass amounts can be anywhere from 5 percent to 100 percent in size.

One industry commenter (78) states that very few kilns with alkali bypasses would have a chance of meeting the proposed limit long-term. One industry commenter (83) requested that EPA clarify whether the NO_X limit applies only to a kiln's main stack or both the main and bypass stacks.

One industry commenter (73) believes that EPA failed to appropriately consider variables that affect uncontrolled NO_X emissions from preheater/precalciner kilns employing SCC and LNB on an industry-wide basis. As a consequence, EPA relied upon a limited database that did not reflect these variables and then made assumptions reflecting an incomplete understanding of variability in uncontrolled NO_X that result from them. Industry commenter (73) recommends that EPA revise its proposed baseline NO_X emission standard from 1.5 to 2.0 lb/ton of clinker, and allow for adjustments of the standard upward from this value when bypasses are used, unusually hard burning raw mixes are used, or specific clinker types (such as oil well clinker) that require non-typical burning methods is being produced. When bypasses, hard burning mixes and/or clinker specifications require non-typical operational parameters, an adjustment factor should be allowed and evaluated on a case-by-case basis. The fact that individual kilns may be able to achieve a NO_X emission rate as proposed (or even lower rates) is not determinative of what is an appropriate standard for the NSPS.

Industry commenter (73) states that fuel volatility plays a major role in NO_X emission control. The uncontrolled NO_X generated in the precalciner alone can vary by as much as 1.4 g/kg of clinker (2.8 lb/ton clinker) based on fuel volatility. Industry commenter (73) states that modern preheater/precalciner kilns fire approximately 55–65 percent of their fuel in the precalciner. The nitrogen content in the fuel is the main factor affecting fuel NO_X formation. The fuel NO_X produced in the precalciner is not directly proportional to the nitrogen content of the fuel. It also depends on the chemical form of the nitrogen in the fuel and the volatility of the fuel. Typically, fuel nitrogen in coals used by PH/PC kilns varies between 1.0 and 2.0 percent. This difference can impact the uncontrolled NO_X by as much as 1.5 lb/ton of clinker.

Industry commenter 73 states that a PH/PC kiln system uses hot gases from the kiln to both dry and heat the raw materials prior to calcination. The effectiveness of this system is related to the moisture content of the raw materials and their ability to absorb heat from the gases. If additional heat is required to dry or heat the raw materials, gases from a separate fuel-fired furnace or the clinker cooler are ducted to the raw mill. As a result, the moisture content of the raw materials directly influences the NO_X emission rates. High moisture materials require additional energy to dry the materials in the raw mill and/or preheater. This increased need for energy contributes to the amount of NO_X emitted if the excess energy comes from burning additional fuel. Some plants may have up to 20–25 percent moisture content in their raw mix—which results in a 15 to 20 percent increase in the kiln's specific heat consumption, as compared to a "standard" raw mix that contains approximately 5 percent moisture. This additional energy need results in the combustion of more fuel which ultimately results in more uncontrolled NO_X.

On NO_X emissions from alkali bypasses, commenter 73 states that because the gases within the bypass are not allowed to remain in the optimal SNCR temperature range, SNCR is not a feasible control option for these gases. The commenter shows (in graph form in their comments) that for a certain size kiln, bypassing 25 percent of its kiln gases will have an incremental increase of approximately 0.42 lb/ton of clinker in the controlled NO_X emission rate.

Industry commenter 73 states that the three major kiln suppliers require a cement company to provide detailed information on raw materials (including moisture content), fuels, and clinker quality specifications prior to preparing a quotation and specifying emission guarantees. Uncontrolled 30-day average NO_X emissions can vary from less than 1.6 to greater than 4.6 lb/ton of clinker. SNCR has been demonstrated to reduce NO_X emissions from cement kilns; however, SNCR has not been used on cement kilns for an extended period of time. High removal efficiencies such as those stated in the preamble (*i.e.*, 63 percent at an ammonia-to-NO_X ratio of 1.0) may result in adverse product quality or environmental impacts that are undesirable. In addition, the use of SNCR on larger kilns (>2,000,000 ton/yr capacity) may not be as effective due to the larger calciner duct diameter and the inability of the ammonia-reagent to mix thoroughly with the combustion gases. Based on limited data, removal efficiencies of 25–50 percent appear to be achievable without these adverse impacts. Therefore, industry Commenter 73 believes that since NSPS is applicable to all new or reconstructed kilns, a reasonable baseline NSPS limit taking into account typical operating conditions and limitations stated above is 2.0 lb/ton of clinker. However, when non-typical conditions exist (bypass, hard burning mixes, and specific clinkers that require non-typical burning methods), an adjustment upward from the baseline value is appropriate and should be made on a case-by-case basis.

Industry Commenters (64, 73) stated that the proposed NO_X limitations are substantially more stringent than the most stringent NO_X limit that applies to cement plants in Europe, which

converts to approximately 2.5 lb/ton of clinker produced although EPA asserts that this should be considered the "baseline level of control that would occur with no additional regulatory action." The industry commenter states that there are several problems with that analysis: (1) It does not appear that this conclusion is based on a "statistically sound" analysis, as the statute requires; and (2) If the NSPS were set at 2.5 lbs of NO_X per ton of clinker, then all affected facilities would have to meet the limitation continuously, rather than the "average" performance of all affected facilities being at or below 2.5 lb/ton. Therefore, it would appear from EPA's rationale that setting an emission standard of 2.5 lb/ton would require some facilities, even if they have SCC and low-NO_X burners, to implement additional NO_X controls in order to comply continuously with that standard throughout the life of the facility.

The industry commenter states that there may be substantial differences between the NO_X emissions that can be achieved by new, greenfield kilns and what can be achieved by "reconstructed," brownfield kilns. NO_X emissions are a function of fuel type and of raw material type, as described above. Reconstructed cement plants usually will have little or no control over their raw materials and may have limited control over the fuel they can use.

The industry commenter states that EPA also needs to address the achievability of NO_X limitations at cement plants that have bypass stacks to control alkalinity because EPA has not presented any basis for concluding that SNCR is a demonstrated technology for meeting the proposed limits for facilities with bypass systems.

Likewise, while EPA acknowledges that burnability may have a significant influence on NO_X emissions, EPA has not explained how these differences are reflected in its analysis of the BDT and the proposed new NO_X limits. Cement plants with hard-to-burn raw materials face much greater challenges in meeting a NO_X limit and applying SNCR.

Industry commenter (64) agrees with EPA that SCR has not been demonstrated on preheater/precalciner kilns and that there are substantial unresolved issues about the potential for use of SCR at such cement plants. Industry commenter (64) also notes that, in addition to the cost which EPA identified as a disadvantage of a low dust SCR system, there would be substantial adverse energy usage and GHG consequences of re-heating the flue gas for a low-dust SCR system.

Industry commenter (64) also believes that EPA has not given adequate consideration to ammonia slip from the use of SCNR. EPA seems to acknowledge that it does not have data on how ammonia slip will contribute to condensable PM emissions, and what if anything could be done to mitigate that contribution. EPA has not conducted a sufficient technical analysis to support new NO_X emission limits that would effectively require use of SNCR without addressing the ammonia slip issues. Ammonia slip may be a particular problem when SNCR is applied to particular designs, such as pyro systems that have been modified or that are particularly large. The inability of these systems to promote the reaction of ammonia with NO_X also reduces potential control efficiency of SNCR on these systems.

Industry commenter (64) believes that the best approach is for EPA not to amend the NSPS to include NO_X limits. If EPA nevertheless insists on including NO_X in the revised subpart F NSPS, then industry commenter (64) recommends that for preheater/precalciner kilns (whether constructed at Greenfield or brownfield sites), a NO_X emission floor of 1.95 lb/ton of clinker be established as the NSPS limit. This limit would then be modified on a case-by-case basis to account for site-specific factors such as the presence of a bypass stack/duct or difficult to burn limestone or fuels, likely resulting in an emission limit in excess of the recommended floor.

Response: The previous response addresses the industry commenters' concerns regarding the appropriateness of the NO_X emissions limit. Based on the data received prior to proposal as well as data submitted after proposal, we feel confident that a well designed preheater/precalciner kiln using low NO_X process technology such as LNB and SCC will be able to achieve a NO_X emission level of 3 lb/ton of clinker or less and using a well designed and operated SNCR system will achieve NO_X removal efficiencies of at least 50 percent without excess ammonia slip. But should a case occur where NO_X emissions prior to application of SNCR are above 3.0 lb/ton clinker, we have set the limit sufficiently high that a facility could increase the NMR for SNCR to achieve removal efficiencies above 50 percent without causing excessive ammonia slip. Referring to Figure 2 above on NMR verses removal efficiency, we note that a NMR of 1 results in a removal efficiency above 75 percent, where a NRR of 1 equates to a point where excessive ammonia slip can occur.

The industry commenters point to numerous factors that can influence NO_X emissions, fuel volatility and type of fuel nitrogen being two factors mentioned. However, we note that facilities have a choice of fuels. If their current fuel creates a high NO_X situation, then they may need to modify their fuel choice. They again raise the issue of burnability but in the context of certain product types. Again we note that there are numerous facilities that achieve NO_X levels well below 3.0 lb/ton clinker located at various locations, some of which have "hard to burn" raw materials. The industry commenters provided no data to substantiate that the burnability issues associated with product types are any more severe that burnability issues associated with different raw materials. Given these different locations, we would surmise that they also use different coals and possible other fuels. Given the breadth of the data, we find it unlikely that we have not sufficiently covered all the variables that affect NO_X emissions. And also given the operating margin we have applied for SNCR (50 percent reduction on average versus a potential reduction of 75 percent), we continue to believe that the 1.5 lb/ton clinker emission limit is achievable under any reasonable foreseeable conditions without resulting in excessive ammonia slip (and the attendant potential to produce $PM_{2.5}$). Industry commenters note that a larger kiln may have problems with ammonia distribution and an attendant reduction in SNCR efficiency. However, they provided no data to substantiate that claim, and we note that some of the kilns achieving levels well below 3.0 lb/ton clinker are above 1 million tpy in size. For larger kilns, it should be possible to use a split exhaust dust if necessary to achieve the required ammonia distribution.

Some industry comments expressed concern that sources will have to actually be able to reduce emissions to below the NO_X limit in order to not exceed the limit. In proposing the NO_X limits, EPA took this into consideration when it set the NO_X limit as a 30-day average as opposed for example to a 24-hr limit. Doing so accommodates occasional daily excursions and accounts for operational variability.

EPA agrees with the industry commenters that kilns equipped with alkali bypasses cannot be expected to meet the NO_X limit for the portion of the exhaust that goes to bypass. Bypass gases are quickly cooled and do not remain at a temperature long enough to be treated using an SNCR systems. EPA has revised the rule to clarify that for kilns with alkali bypasses, only the main kiln exhaust gases are subject to the NO_X limit. Because all kilns do not

require an alkali bypass and the bypass gas stream is a small fraction of the total kiln exhaust gas flow, the emission of NO_X from the bypass will be minimal.

Comment: Several State and environmental advocacy group commenters (60, 68, 70, 71, 72) stated that the proposed limits for SO_2 were not sufficiently stringent. State commenter (60) recommends deleting the 90 percent reduction option, revising the limit for SO_2 to 0.5 lb/ton clinker on a 24-hr rolling average if the kiln is a PH or PH/PC kiln and adding a limit of 1.0 lb/ton clinker on a 24-hr rolling average if the kiln is a long wet or long dry kiln. State commenter (72) concurs on reducing the limit to 0.5 lb/ton for PH/PC kilns. State commenter (60) states that for PH and PH/C kilns the limit should apply equally to projects at greenfield sites and to projects at brownfield sites. Industry commenter (60) cites kiln performance at brownfield sites that have involved new kilns and reconstructed or modified of existing kilns.

Cement plants in Florida emit on the order of 0.10 lb SO_2/ton clinker. Although these kilns use low-sulfur feed materials, all use coal and rely on the fuel SO_2 control that is inherent in the PH and PH/C designs. The steps include reaction with alkali and incorporation into the clinker in the burning zone, dry scrubbing with finely divided lime in the calcination zone and moist limestone scrubbing in the raw mill. State commenters (60) and (72) cite the performance of the kilns used by EPA to establish the proposed limit. The key kiln (kiln 5 at TXI Midlothian, TX) upon which EPA based the proposed SO_2 standard of 1.33 lb/ton has actually operated at 0.37 to 0.57 lb/ton.

State commenters (60) and (72) state that raw materials in the Midlothian area are known to be high-sulfur and the TXI kiln has a wet scrubber to reduce (non-fuel) SO_2 emissions. The limit for kiln 5 is now approximately 0.95 lb/ton following a production increase authorized by the Texas Commission on Environmental Quality (TCEQ). TXI Midlothian Kiln 5 and two other PH/C kilns (Kilns 1 and 2) operated by Holcim in the same city are controlled by wet scrubbers. All three have wet scrubbers yet there is a vast difference in performance between the TXI Kiln 5 and the Holcim Kilns 1 and 2. The commenter presented data on the SO_2 performance of the 3 scrubber controlled kilns. According to the commenter, the TXI Kiln 5 can consistently achieve SO_2 emissions less than 0.5 lb/ton if required by a permit limit. The higher SO_2 values for the Holcim kilns (>4 lb/ton) represent the first year of joint operation. Thereafter, Holcim Kilns 1 and 2 were operated at levels between 2 and 3 lb/ton. The commenter states that they can choose to run one to four pumps providing reductions in SO_2 emissions ranging from 51 percent with a single pump in operation to 91 percent with four pumps in operation.

State commenters (60) and (72) state that the Ash Grove Chanute PH/C kiln in Kansas achieves less than 0.30 lb SO_2/ton despite high sulfur in the raw materials without even using a wet scrubber. State commenter (60) states that this performance is attained using important innovations (The F.L. Smidth DeSOx system and Envirocare Micromist Lime system) not yet assessed by EPA. Attachments provided as part of the comment describe these technologies. State commenter (60) states that without controls, the proposed Chanute kiln would emit SO_2 at the high rate of 12 lb/ton from raw material sources alone (*i.e.*, exclusive of fuel SO_2). According to state commenter (60), using the described technology, actual emissions from the Ash Grove Chanute kiln are less than 0.25 lb SO_2/ton.

According to State commenter (60), the Holcim Siggenthal PH kiln in Switzerland achieves approximately 0.05 lb SO_2/ton using the POLVITEC coke filter installed in the 1990's. The POLVITEC system is used with various concurrent operational practices to control NH3 (from an SNCR system), SO_2, PM and metals. Among several functions, the coke filter captures the non-fuel SO_2 generated in the PH. The coke is subsequently crushed and then burned with fuel in the main kiln burner. The SO_2 from the PH then behaves like fuel SO_2 and is incorporated into the clinker. Further details are available in an attachment submitted with the comment. The State commenter also states that SO_2 emissions would be significantly less than 0.10 lb/ton of clinker. According to the State commenter, the Siggenthal plant emits much less SO_2 than the average of Holcim cement plants in Switzerland and clearly less than 0.10 lb SO_2/ton.

State commenters (60) and (72) state that the Holcim Untervaz plant in Switzerland achieves between 0.04 and 0.21 lb SO_2/ton using a wet scrubber despite, according to State commenter (72), the presence in the limestone of iron sulfide. Holcim initially installed a dry scrubber at the Untervaz plant in the late 1980's. Recent data provided by the State commenter indicate significant reductions in SO_2 emissions since 2002 largely due to the replacement of the older dry scrubber with a more efficient and economic wet scrubber.

According to State commenter (60), the areas where medium sulfur raw materials are present can implement programs similar to the Ash Grove installation without installing large wet scrubbers, dry scrubbers or coke filters. Finally selective mining of the available raw materials with respect to sulfur content is an important SO_2 control strategy for any new project. In summary, State commenter (60) recommends an NSPS SO_2 limit of 0.50 lb/ton of clinker on a 24-hour basis for PH and PH/C kilns. State commenter (60) states that because long wet and long dry kilns use more energy to make a ton of clinker, a higher SO_2 limit may be acceptable. State commenter (60) agrees with EPA's assumption that new projects triggering the NSPS will result in a PH/C kiln. According to the State commenter, projects that might trigger a PSD review at a long wet or long dry kiln will probably incorporate emissions control measures to avoid PSD and a BACT determination. The measures to avoid PSD will also likely avoid the short-term emissions increases that would otherwise trigger the NSPS. With respect to the reconstruction provisions, the commenter states that it is not likely that a company will actually invest 50 percent of the (undepreciated) value of an existing long kiln without taking the opportunity to make it much more energy efficient through conversion to a PH/C kiln. Nevertheless, the State commenter states that it is advisable to separate out the (unlikely) long kiln projects that trigger the NSPS without resulting in PH or PH/C kilns in order to avoid the unnecessary relaxation of the limits applicable to the much more likely PH and PH/C kilns. According to the State commenter, scrubbers are available for long kilns just as they are available for PH and PH/C kilns. Other suggested strategies cited by the commenter include (1) Near mid-kiln pressurized air injection; and (2) Chains near the entrance of the kiln that can improve contact between the incoming wet limestone and the SO_2-laden exhaust gases containing both raw material and fuel sulfur.

State commenter (60) states that good SO_2 control will make it possible to employ more aggressive NO_X control and that the control of NO_X and SO_2 will also minimize the formation of ozone and fine PM in the environment.

State commenters (68, 70, 71) stated that State and local experts, who have had long experience with this industry, believe that the proposed NSPS limit for SO_2 does not reflect what most plants are capable of achieving. Even taking

into account regional variability in the pyritic sulfur content of the raw materials, these State commenters find that most cement kilns already achieve lower SO_2 emissions than the 1.33 lb/ton of clinker proposed.

State commenter (70) stated that after addressing raw materials in their most recent BACT review, SO_2 limitations were 0.9 lb/ton of clinker (30-day average) and 1.6 lb/ton of clinker (24-hr average); considerably lower than the 1.33 lb/ton of clinker (30 day average) proposed.

Response: Most kilns have low SO_2 emissions because of the widespread availability of raw materials with low to moderate sulfur levels and the inherent scrubbing effects of modern PH/PC kilns with in-line raw mills. In fact, these two reasons have been cited as BACT in several NSR reviews. Sulfur in the fuel is typically not a problem because the sulfur content is relatively low and the sulfur has ample opportunity to react with clinker and dust both in the kiln and raw mill before the exhaust gases are discharged to the atmosphere. The sulfur that usually results in higher SO_2 emissions is due to pyritic sulfur contained in the raw materials, especially the limestone. Where kilns have high levels of pyritic sulfur in their raw feed, wet scrubbers may be necessary to meet the limit for SO_2.

We note that in our analysis of the NESHAP, all new kilns will have to apply wet scrubbers to meet the HCl emissions limit. If this indeed occurs then costs of wet scrubbing to meet the SO_2 will be negligible. Even in the absence of the NESHAP requirements, the application of a wet scrubber to a kiln that has high uncontrolled SO_2 emissions is a cost effective approach to reducing SO_2 emissions. At higher uncontrolled emission levels, wet scrubbers achieve emission reductions of 90 to 95 percent. However, at lower uncontrolled SO_2 levels, removal efficiency declines resulting in an increase in cost-effectiveness. But at this point other cost-effective control techniques, such as lime injection, are available. Based on these facts, we have lowered the SO_2 emission limit in this final rule to 0.4 lb/ton clinker or a 90 percent reduction in SO_2 emissions, which addresses the comments that the proposed SO_2 limit was too high.

Comment: Several industry commenters (64, 74, 75) expressed concerns that the proposed limits for SO_2 are too stringent. One industry commenter (64) recommends that EPA not include SO_2 limitations because EPA recognizes that there are only "a few locations" where the raw materials contain high levels of sulfur, and in those few situations State regulations already impose SO_2 emission limitations that require the type of technology EPA proposes as the basis for the proposed SO_2 limitations. The industry commenter states that EPA assumes that one out of five new kilns will be sited where the raw materials are high in sulfur, requiring an SO_2 scrubber or a lime injection system when in fact at existing plants there have only been a handful of situations where high-sulfur materials have been determined to justify wet scrubbers. According to the industry commenter, of 28 BACT determinations for SO_2 for cement kilns since 1998 reported in the RACT/BACT/LAER Clearinghouse (RBLC), only 5 were based on wet scrubbers, and 1 specified a dry scrubber or hydrated lime injection while the majority required no add-on controls because of low-sulfur raw materials or reliance on the inherent process absorption of SO_2. The industry commenter states that the preamble information that the fact that only 5 kilns out of 178 kilns currently use a wet scrubber indicates that uncontrolled SO_2 emissions are rarely high enough to justify add-on controls.

The industry commenter states that EPA acknowledges in the preamble that EPA is not obligated to promulgate NSPS for every pollutant emitted by sources in the source category. According to the industry commenter, the fact that very few cement kilns have been required to employ add-on controls for SO_2 is evidence that there are few instances where cement kilns are contributing to SO_2 NAAQS nonattainment, so there is no need for an SO_2 NSPS to address ambient air quality problems.

Industry commenter (64) states that allowing State and site-specific requirements to address SO_2 at plants with high-sulfur raw materials would address weaknesses in EPA's proposed SO_2 standards. For example, although EPA assumes that the proposed SO_2 standards will require add-on controls only at facilities with high-sulfur raw materials, EPA has proposed a limit of 1.33 lb of SO_2 per ton of clinker, whereas the average emission rate from just 18 data points from tests at facilities with moderate levels of sulfur in raw materials was 1.3 lb/ton. EPA's assumption that facilities with low and moderate levels of sulfur in raw materials would not have to install controls to meet the proposed SO_2 standards is not justified by those data. Requiring facilities with moderate uncontrolled SO_2 emission levels to use add-on controls for SO_2 would result in excessively high costs per ton of SO_2 removed, as EPA has recognized. Also, the energy penalty associated with wet scrubbers could more appropriately be evaluated on a case-by-case basis, where it can be weighed against factors such as the level of uncontrolled SO_2 emissions at the particular plant and the need for further SO_2 reductions at that location for attainment and maintenance of SO_2 ambient air quality standards.

Industry commenter (64) states that because there is so little experience with add-on SO_2 controls, EPA has relatively little data about the performance of those controls, and is proposing NSPS for SO_2 based solely on a recent BACT determination. The few kilns that will be subject to the proposed subpart F NSPS can be addressed through requirements for SO_2 control derived through the RACT process or through NSR.

Industry commenter (64) states that if EPA persists in setting SO_2 standards, there are a number of problems with the standards as proposed. For example, the percentage reduction alternative does not indicate that it is to be calculated on a 30-day basis or how the percentage reduction is to be calculated. The industry commenter infers from the monitoring provisions that EPA intends for a source to compare the SO_2 concentration at the inlet to the scrubber to the SO_2 concentration at the outlet from the scrubber, but this does not reflect the substantial reduction in SO_2 emissions that occurs from contact with alkaline materials in the process. The industry commenter states that cement plants with moderate uncontrolled SO_2 emissions may have to install controls and the 90 percent reduction standard likely would be unachievable when applied to the relatively low inlet concentrations to the control device. The industry commenter states that it is even less clear how EPA would apply the percentage reduction standard to cement plants that choose to use lime injection.

Industry commenter (64) states that the proposed regulations lack any discussion of whether the SO_2 limitations apply during periods of startup, shutdown, and malfunction. Since substantial reduction of SO_2 occurs naturally in the cement-making process because of the alkaline nature of the raw feed, industry commenter (64) states it would be reasonable to provide an exemption so that a wet scrubber or a lime injection system need not be operating, or operating at maximum efficiency, during periods of startup, shutdown, or malfunction. The industry commenter states that several recent BACT determinations involving

scrubbers include special provisions for startup, shutdown, or malfunction.

Industry commenter (64) states that the proposed limits for SO_2 appear inconsistent with their stated technology basis, when compared to actual experience and to BACT determinations. According to the commenter, the majority of BACT determinations in the past 10 years that rely only on inherent SO_2 reduction established limits higher than 1.33 lb/ton of clinker, except for plants in Florida, where the BACT determinations often recognized that raw materials are low in sulfur. According to the industry commenter, NSPS should be based on demonstrated technology that can be applied to the sector as a whole, rather than based on raw materials that are available only in a limited area of the country. These BACT determinations also undermine EPA's stated assumption that 1.3 lb/ton represents a "moderate uncontrolled SO_2 emission rate" and 13 lb/ton would be "a high uncontrolled SO_2 emission level," since almost all BACT determinations for plants other than those in Florida imposed SO_2 emission limits based on no add-on controls higher than 1.3 lb/ton, and a number were higher than 13 lb/ton.

Industry commenter (64) states that if EPA insists on promulgating NSPS for SO_2, it is essential that the standards retain the proposed option of meeting either a pounds per ton of clinker or a percentage reduction limit; but both limits should be higher than proposed. According to the commenter, the three wet scrubbers operated by Holcim were not designed to achieve 90 percent reduction, and the one BACT determination that contains an estimated percentage reduction in the RBLC uses 85 percent reduction. Importantly, cement plants in arid venues may not have the option to use a wet scrubber because of water restrictions. Especially if EPA persists in applying the revised NSPS to existing, modified or reconstructed facilities, wet scrubbers cannot be considered demonstrated available technology for all facilities in the source category. EPA does not, and industry commenter (64) believes EPA cannot, support a 90 percent reduction requirement using dry scrubbers or lime injection. According to the industry commenter, to qualify as a limit based on demonstrated technology, the limit should be achievable at all types of plants, raw materials, and locations, and should be based on actual performance data rather than what is "reportedly" achievable or anticipated.

Industry commenter (64) states that 1.33 lb/ton does not represent even the technology basis—alkaline wet scrubber on high-sulfur raw materials—that EPA has identified. The industry commenter states that EPA describes one kiln where uncontrolled SO_2 emissions are "about 13 lb/ton of clinker." Achieving 90 percent reduction of that uncontrolled emission rate would just meet the proposed mass limit, with no margin of compliance. And in any event, at least four of the BACT determinations for cement kilns in the past 10 years reported in the RBLC reflect uncontrolled SO_2 emission rates over 20.0 lb/ton. The proposed limit of 1.33 lb/ton thus does not reflect a limit that has been demonstrated as achievable applying wet scrubber technology to the range of sulfur contents present in cement plant raw materials.

One industry commenter (74) states that the proposed SO_2 limit may be achievable in most cases but different plants will require different solutions to achieve that limit. Due to the large variations in the elemental and pyritic sulfur from plant to plant, industry commenter (74) does not believe that it is fair to have a set SO_2 limit for all plants. Each plant's limit should be considered on a case-by-case basis considering the elemental or pyritic sulfur level in the raw materials and a reasonable target for the cost per short ton of removal to determine the controls that are used. In some cases this will give a limit lower than 1.33 lb/ton clinker and in other cases it will give a higher limit.

One industry commenter (75) states that: (1) Given the range of pyritic sulfur in our raw material, we would need to have a wet scrubber to meet this limit; (2) Lime injection is an effective control with less secondary impacts on water supply and energy use; and (3) A limit of 4 lb/ton of clinker should be adopted. This would allow greater use of lime injection, providing significant SO_2 reductions while avoiding secondary adverse environmental impacts and energy use of wet scrubbing. The industry commenter does not believe that the proposed limit adequately reflects the inherent variability of kiln emission rates, which are dictated by the characteristics of the raw feed to a kiln. Industry commenter (75)'s kiln feed is locally mined raw materials used for over 100 years, with plans to continue the present mining operation for many years in the future. The standard, as proposed, would impose economic and environmental impacts beyond those considered by EPA.

Response: EPA disagrees with the industry commenter that the Agency is under no obligation to set standards for SO_2 as evidenced by the lack of any SO_2 limits previously or the infrequent need for scrubbers (5 out of 20 new kilns expected to need scrubbers). The absence of SO_2 limits in the NSPS previously was due to the lack of a demonstrated add-on control technology applied to cement kilns during EPA's last review of the NSPS in 1988. Since then, wet scrubbers have been installed on no less than five kilns and operate continuously. Other scrubbers, dry and wet, are installed on other kilns and operate as needed. In reference to the industry commenters' observations regarding permitted kilns in the RBLC database, EPA notes that three kilns for which scrubbers are reported as an add-on control device have permit limits far in excess of the NSPS SO_2 limits indicating a clear need for national standards for SO_2 emissions from cement kilns. Furthermore, controlling SO_2 emissions will control emissions of condensable fine particulate matter, leading to very significant environmental benefits. *See* Table 13 in Section VI. Control is consequently in keeping with the ultimate goals of the Act in general and section 111 in particular: protecting and enhancing the Nation's air quality. *See Asarco* v. *EPA*, 578 F. 2d at 327.

In response to the industry commenters' argument that kilns utilizing raw materials with moderate sulfur levels may have to install controls to comply with the SO_2 limit, EPA agrees that in a few instances those kilns may need to reduce their SO_2 emissions. However, these kilns only need moderate reductions in SO_2 and have options other than adding wet scrubbers (assuming no wet scrubbers are needed to meet the NESHAP HCl standard). In addition to the inherent scrubbing that occurs with the raw mill, cement plants can and do also practice careful selection of their raw materials to avoid high sulfur materials. There are cement plants that already limit the sulfur in their raw materials through their mining practices and through screening the raw materials they purchase. Owners and operators also reduce SO_2 emissions by not burning sulfur-containing coal and by burning natural gas during kiln preheating, shutdown and during other maintenance periods when the kiln and/or raw mill are down. In those instances when some additional reduction is necessary, a less expensive alternative to wet scrubbing is lime injection. Lime injection can achieve up to 70 percent reduction and may only be necessary during periods of higher SO_2 emissions, for example when the raw mill is off.

In response to the industry commenter's questions of how the 90 percent reduction is to be determined, they are correct that the reduction is to be measured across the scrubber (in other words, measurements must be made to measure the SO_2 entering the scrubber and the SO_2 exiting the scrubber). Like the SO_2 standard, the rule states explicitly that the 90 percent reduction is to be based on a 30-day average. In the case of lime injection, EPA believes this add-on control will only be used in situations requiring a modest reduction in SO_2 emissions and these kilns will be able to meet the SO_2 emissions limit.

EPA disagrees with the industry commenter's suggestion that EPA provide some allowance for periods of startup, shutdown or malfunction as SO_2 emissions are affected by whether the raw mill is operating or not. The industry commenter requested that EPA allow that during these periods, scrubbers or lime injection systems need not operate or at least need not operate at maximum efficiency. The industry commenter provided no data to indicate that, given the long averaging periods, a facility's raw mill up time versus down time is significantly affected by periods of startup and shutdown. In fact, the reason for the 30 day averaging period was specifically to allow a long enough averaging period that the higher emissions that occur for SO_2 when the raw mill is down could be averages with long periods when the raw mill is operating.

EPA disagrees with the industry commenter's statement that the proposed limits for SO_2 appear inconsistent with their stated technology bases, when compared to actual experience and to BACT determinations. The standard was based on the performance of a scrubber-equipped kiln that processed high sulfur limestone. The alternative to the SO_2 emission limit is to demonstrate a 90 percent removal efficiency across the scrubber. EPA could not ignore the performance of this control technology, *i.e.*, wet scrubbers, which are currently used full time at 5 cement plants. In reviewing the RBLC database, it is obvious that, in some cases, permit limits are not as stringent as they could be. One entry in the RBLC database even stated that the permit limit did not account for the reduction that would be achieved by the scrubber installed to control SO_2.

We note that industry commenters have stated that some new facilities may be located in areas where there is not sufficient water to operate a wet scrubber. However, we are not mandating the use of wet scrubber technology in these regulations, and we believe that sufficient alternative controls exist for SO_2 controls that this issue would not preclude a facility from meeting these emissions limits. As previously noted, these alternative technologies include dry lime injection, injection of sodium compounds, selective mining, injection of a finely divided lime slurry, use of lower sulfur fuels, and careful screening of purchased raw materials. Regarding the industry commenter's statements that the emission limit and alternative percent reduction should be less stringent, EPA notes that the kiln upon which the emission limit was based actually operates at levels under 0.6 lb/ton clinker based on information supplied by another commenter (60). The same industry commenter states that the limit for the kiln was reduced in 2007 from 1.33 to 0.95 lb/ton following a production increase authorized by the Texas Commission on Environmental Quality. To support its statement that a 90 percent removal efficiency is too high, the industry commenter noted that three Holnam (now Holcim) plants use scrubbers that are designed to operate at less than 90 percent efficiency. Our data for the scrubbers at the Texas plant shows that the removal efficiency depends on the number of pumps in operation, with 91 percent efficiency when all four pumps are operating. The scrubbers at the Holnam facility in Michigan have not operated continuously due to various issues encountered. We also note that SO_2 scrubbers in the utility industry have consistently achieved 90 percent SO_2 since the 1970s. We see no technical reason that the same removal levels are not achievable in the cement industry. Therefore, where add-on controls are necessary to comply, scrubbers designed to achieve at least a 90 percent efficiency or greater are expected to be able to meet the 90 percent efficiency alternative; cement plants may be able to meet the emission limit by utilizing scrubbers with less than 90 percent efficiency or with lime injection if the uncontrolled SO_2 levels are at moderate levels (assuming that wet scrubbers are not needed to comply with other requirements, such as the HCl standard in the NESHAP).

EPA does not agree with the industry commenter that the limit of 1.33 lb/ton based on uncontrolled SO_2 emissions of 13 lb/ton of clinker and a 90 percent reduction leaves no margin for compliance. First, there are scrubbers with efficiencies higher than 90 percent removal efficiency, which, even if they can't meet the 1.33 (or the 0.4) lb/ton clinker emission limit, will be able to consistently meet 90 percent removal. Secondly, based on an industry commenter, the SO_2 emissions from a PH/PC kiln are not likely to be as high as 13 lb/ton of clinker due to the scrubbing effects of the raw mill, but more in the range of 4–5 lb/ton of clinker (75). This is supported by data from a 2001 survey of cement plants showing that average SO_2 emissions from PH kilns was 1.39 lb/ton of clinker (maximum of 6.54) and from PC kilns was 1.92 lb/ton of clinker (maximum of 8.83). Based on these data, use of a wet scrubber should be able to meet the proposed SO_2 limit of 1.33 and the final limit of 0.4 lb/ton clinker. In some cases, a less expensive control such as lime injection may be adequate. Regarding the industry commenters reference to determinations reported in the RBLC that reflect uncontrolled SO_2 emission rates over 20.0 lb/ton, these rates (if they are accurate) are associated with old wet kilns that do not have inline raw mills. In the case of one the two Michigan kilns, the quarries raw materials are known to have extremely high sulfur contents that are not seen at other locations. However, even if this location decided to build a new kiln, or to modify or reconstruct an existing kiln, they would still have the option to meet the 90 percent removal option.

In response to the industry commenter that states it is not fair to have a set SO_2 limit for all plants and that each plant's limit should be considered on a case-by-case basis, EPA points out that the standards gives plants an alternative to the SO_2 limit recognizing, just as the industry commenter states, that some plants may not be able to meet the SO_2 limit due to the presence of pyritic sulfur in its limestone. Where plants cannot meet the SO_2 limit, they have the option of complying with the alternative limit of showing a 90 percent reduction in SO_2 emissions.

EPA disagrees with one industry commenter's suggestion of setting the SO_2 limit at 4 lb/ton clinker in order to allow greater use of lime injection systems. Given that there are cost-effective controls to achieve much lower levels, a limit of 4 lb/ton clinker simply cannot be considered BDT. We also note that EPA does not specify the type of control that must be used to meet the limit, or, for that matter, that any specific control has to be used. Plant owners may use any add-on control, such as lime injection if a control is necessary, or process control, such as selective mining, or a combination of add-on and process controls to meet the

limit. The industry commenter states that it mined its materials locally for over 100 years and plans to continue to do so. However, almost all cement plants in the country could make a similar statement, and it has no relevance and does not change the facts that cost-effective SO_2 controls are available to achieve SO_2 emission levels of 0.4 lb/ton clinker.

Comment: One industry commenter (64) supports EPA's decision not to set separate limits for condensable PM, $PM_{2.5}$, or PM_{10} stating that these fractions of PM will be adequately controlled by facilities utilizing control equipment sufficient to meet the proposed limits for PM. The industry commenter also concurs that EPA does not have adequate data on the emissions or the demonstrated capability of various control technologies to meet any specified level of these fractions of PM. The industry commenter states that they are not aware of any demonstrated or emerging technology that would provide better control of $PM_{2.5}$, PM_{10}, or condensable PM emissions specifically.

Response: The PM limits address filterable PM, including $PM_{2.5}$ and PM_{10}, but not condensable PM. EPA does not currently have sufficient information on emissions of condensable PM from cement kilns to set emission limits and the limited information we do have is highly uncertain. We also believe that these emissions will be controlled via controls on HCl in the NESHAP and SO_2 in the NSPS. EPA has recently promulgated a new test method for condensable PM (Method 202) which will allow for more reliable assessments of condensable PM. We anticipate that better data will be available at the time of the next review of the NSPS.

Comment: Several industry commenters (64, 73, 74, 83) expressed concerns over the proposed NSPS for PM of 0.086 lb/ton of clinker. Industry commenter (64) states that the proposed limit of 0.086 lb/ton of clinker is not supported by the data available from new plants with the identified technology: It does not allow for deterioration of performance over time, and it does not allow for an adequate margin of compliance. Industry commenters believe that EPA used insufficient data to develop the standard and failed to consider situations where gases from kilns, clinker coolers, and coal mills are combined for energy recovery purposes. Industry commenter (73) has spoken to major suppliers of cement kiln systems and believes that baghouse technology with membrane bags is capable of achieving a continuous outlet grain loading rate of 0.010 gr/dscf. Applying EPA's factors for standardized volumetric flow and feed-to-clinker ratio (54,000 dscf/ton of feed and 1.65 tons feed/ton clinker), an appropriate NSPS PM standard would be 0.127 lb/ton of clinker for cement kilns and clinker coolers. Industry commenter (73) and (74) also believe that when clinker cooler and kiln gases are combined, the standard for these systems should be additive.

The industry commenters stated that the standards must be set at a level that recognizes that there will be some deterioration in performance over time. According to the industry commenters, in most cases, emission rates achieved immediately after installation of pollution control equipment will not be representative of the performance over the life of the source, as the bags and the baghouse itself age and experience normal wear, even with proper operation and maintenance. Industry commenter (73) agrees with EPA that "fabric filters control generally to the same concentration irrespective of the PM loading to the filter inlet, though some variability in PM emissions from fabric filters does occur due to seepage and leakage." It is the seepage and leakage that becomes an issue as baghouses age. Industry commenter (64) states that the PM stack testing data used by EPA in their analyses were obtained from kiln-baghouse systems that had operated for less than 5 years and, therefore, EPA has not demonstrated that they have proposed a limit that new sources can sustain long term. EPA has recognized this in numerous other rulemakings, including in setting emission standards for hazardous air pollutants at new cement kilns burning hazardous waste where they amended the PM limits for new sources in that NESHAP based on data demonstrating that the original PM standard was "overly stringent in that it does not fully reflect the variability of the best performing source over time."

Response: As noted in the previous comments on the NESHAP PM limit, we have reevaluated the performance of PM controls for this source category and have determined that the appropriate NESHAP new source standard is 0.1 lb/ton clinker based on a 30 day rolling average. Because all new sources will be required to meet this limit, we see no reason to set a different limit for the NSPS. We note the industry commenter's performance concerns. However, in setting the NESHAP limit we reviewed test data from a number of facilities. Some facilities had average emissions as low as 0.007 lb/ton clinker based on short term testing, and the average of the best performing five facilities was 0.019 lb/ton (based on multiple short term testing). Based on this information, we believe that if the PM control is properly designed and maintained, PM levels well below the level we proposed, or the levels suggested by the commenter are possible. In addition, the data discussed were short term tests. Compliance will be based on a 30-day rolling average, which allows facilities to average out potential short term transients.

VI. Summary of Cost, Environmental, Energy, and Economic Impacts

A. What are the impacts of the final amendments to subpart LLL and subpart F?

We are presenting a combined discussion of the estimates of the impacts for these final amendments to 40 CFR part 60, subpart F and 40 CFR part 63, subpart F. The cost, environmental, and economic impacts presented in this section are expressed as incremental differences between the impacts of a Portland cement plant complying with the amendments to 40 CFR 63 subpart LLL 40 CFR part 60 subpart F and the baseline, *i.e.*, the standards before these amendments. The impacts are presented for the year 2013, which will be the year that all existing kilns will have to be in compliance, and also the year that will represent approximately 5 years of new kiln construction subject to the amended NSPS emissions limits. The analyses and the documents referenced below can be found in Docket ID Nos. EPA–HQ–OAR–2007–0877 and EPA–HQ–OAR–2002–0051.

1. What are the affected sources?

We expect that by 2013, the year when all existing sources will be required to come into compliance, there will be 100 Portland cement manufacturing facilities located in the U.S. and Puerto Rico that we expect to be affected by these final amendments. Of these facilities, approximately 5 are complete new greenfield facilities. These facilities will operate 158 cement kilns and associated clinker coolers. We have no estimate of the number of raw material dryers that are separate from the kilns.

Based on capacity expansion data provided by the Portland Cement Association, we anticipate that by 2013 there will be 16 kilns and their associated clinker coolers subject to NESHAP new source emission limits for mercury, HCl, and THC, and seven kilns and clinker coolers subject to the amended NSPS for NO_X and SO_2. Some of these new kilns will be built at existing facilities and some at new

greenfield facilities. The location of the kiln (greenfield or currently existing facility) has no bearing on our estimated cost and environmental impacts (since there are no longer separate standards for so-called greenfield new sources).

As previously noted there are two kilns with unusually high mercury emissions that we believe cannot meet the mercury emissions limit without using more than one control technique. In developing the cost impacts, we assume that they would require multiple mercury controls. The only mercury controls available for which we have detailed cost data are ACI and wet scrubbers, so we costed both controls to develop what we consider to be a reasonable cost estimate for these facilities. This does not imply that we believe these facilities will specifically use a combination of a wet scrubber and ACI to meet the mercury limit, but we do believe the combination of these control results in a reasonable estimate of cost.

2. How are the impacts for this proposal evaluated?

For these final Portland Cement NESHAP amendments, EPA utilized three models to evaluate the impacts of the regulation on the industry and the economy. Typically in a regulatory analysis, EPA determines the regulatory options suitable to meet statutory obligations under the CAA. Based on the stringency of those options, EPA then determines the control technologies and monitoring requirements that sources might rationally select to comply with the regulation. This analysis is documented in an Engineering Analysis. The selected control technologies and monitoring requirements are then evaluated in a cost model to determine the total annualized control costs. The annualized control costs serve as inputs to an Economic Impact Analysis model that evaluates the impacts of those costs on the industry and society as a whole.

The Economic Impact Analysis model uses a single-period static partial-equilibrium model to compare a pre-policy cement market baseline with expected post-policy outcomes in cement markets. This model was used in previous EPA analyses of the Portland cement industry (EPA, 1998; EPA, 1999b). The benchmark time horizon for the analysis is assumed to be short and producers have some constraints on their flexibility to adjust factors of production. This time horizon allows us to capture important transitory impacts of the program on existing producers. The model uses traditional engineering costs analysis as "exogenous" inputs (*i.e.*, determined outside of the economic model) and computes the associated economic impacts of the final regulation.

For the Portland Cement NESHAP, EPA also utilized the Industrial Sector Integrated Solutions (ISIS) model which conducts both the engineering cost analysis and the economic analysis in a single modeling system. The ISIS model is a dynamic and integrated model that simulates potential decisions made in the cement industry to meet an environmental policy under a regulatory scenario. ISIS simultaneously estimates (1) optimal industry operation to meet the demand and emission reduction requirements, (2) the suite of control technologies needed to meet the emission limit, (3) the engineering cost of controls, and (4) economic impacts of demand response of the policy, in an iterative loop until the system achieves the optimal solution. The peer review of the ISIS model can be found in the docket.[45] This model was revised based on peer review comments and comments on the proposed rule and was used to develop cost and economic impacts of the final rule.

In a Technical Memo to the docket, we provide a comparison of these models to provide an evaluation of how the differences between the models may impact the resulting estimates of the impacts of the regulation. For example, the Engineering Analysis and Economic Impact Analysis evaluate a snapshot of implementation of the final rule in a given year (*i.e.*, 2013, based on 2005 dollars) while ISIS evaluates impacts of compliance dynamically over time (*i.e.*, 2005–2013). In general, given the optimization nature of ISIS, ISIS accounts for more flexibility when estimating the impacts of the regulation. For example, when optimizing to meet an emission limit, ISIS allows for the addition of new kilns, as well as kiln retirements, replacements, expansions and the installation of controls. In the Engineering Analysis the existing kiln population is assumed to be constant even though normal kiln retirements occur. Based on these differences, the total control costs from the Engineering Analysis are higher than the total control cost estimated in ISIS.

We have not yet developed ISIS modules to calculate non-air environmental impacts and energy impacts. Therefore, these sections only contain impacts calculated by the traditional engineering methods.

[45] *See* Industrial Sector Integrated Solutions Model and Review of ISIS Documentation Packages dated August, 2010.

In addition, we have not yet developed ISIS modules to calculate non-air environmental impacts and energy impacts. Therefore, these sections only contain impacts calculated by the traditional engineering methods.

3. What are the air quality impacts?

For the Portland Cement NESHAP and NSPS, we estimated the emission reductions that will occur due to the implementation of the final emission limits. EPA estimated emission reductions based on both the control technologies selected by the engineering analysis and the ISIS model. These emission reductions are based on the estimated kiln population in 2013.

Under the final limit for mercury, we have estimated that the emissions reductions will be 14,700 lb/yr for kilns subject to the exiting source emissions limits. For kilns subject to new source emissions limits, the emissions reductions will be 1,900 lb/year in 2013.

Under the final limits for THC, we have estimated that the emissions reductions will be 9,800 tpy for kilns subject to existing source limits, which represents an organic HAP reduction of 3,400 tpy. For kilns subject to new source limits, THC emissions will be reduced by 720 tpy. This represents an organic HAP reduction of 250 tpy.

Under the final limit for HCl, we have estimated that emissions will be reduced by 4,700 tpy for kilns subject to exiting source limits and 1,100 tpy for kiln subject to new source limits.

The final emission limits for PM represent a lowering of the PM limit from 0.5 lb/ton of clinker to .04 lb/ton of clinker for existing kilns and for new kilns, a lowering to 0.01 lb/ton of clinker. These new limits are based on 30-day rolling averages measured with a CEM. We have estimated that PM emissions will be reduced by 9,500 tpy for kilns subject to the existing source limits and 2,000 tpy for kilns subject to the new source limit. These estimates include only direct PM reductions, and do not include secondary PM reductions that occur as a result of concurrent control of SO_2 discussed below. The PM emission reductions that occur as a result of the final NSPS limits are included in the totals shown above since the final NSPS PM limit is equal to the new source NESHAP limit.

The control strategies likely adopted to meet the final standards for mercury, THC and HCl will also result in concurrent control of SO_2 emissions. For kilns that use an RTO to comply with the THC emissions limit, it is necessary to install an alkaline scrubber upstream of the RTO to control acid gas and to provide additional control of PM

and to avoid plugging and fouling of the RTO. Scrubbers will also be used to control HCl and mercury emissions. Reductions in SO_2 emissions associated with controls for mercury, THC and HCl are estimated at 230 tpy, 11,200 tpy, and 98,400 tpy, respectively, so that total reduction in SO_2 emissions from existing kilns will be an estimated 95,500 tpy. The SO_2 emission reduction totals also include the reduction that will result from the final NSPS limit for SO_2. If we were to break out the NSPS SO_2 reduction separately, a new 1.2 million tpy kiln equipped with a scrubber will reduce SO_2 emissions by 190 tpy on average or about 14,300 tpy in 2013.

These controls will also reduce ambient concentrations of secondary $PM_{2.5}$ as well. This is PM that results from atmospheric transformation processes of precursor gases, including SO_2. Note that the PM emission reductions above do not reflect reductions in secondary PM formation. For these rules, the reduction in secondary PM formation represents a large fraction of the total reduction in ambient levels of PM, which is discussed in the benefits section of the preamble below. However, with the data available, we are unable to estimate the fraction of ambient PM reduction resulting specifically from the reduction in SO_2 emissions.

Under the final limit for NO_X, we estimated that the emission reduction for a 1.2 million tpy model kiln will be 600 tpy. The nationwide emissions reduction 5 years after promulgation of the final standards was estimated at 6,600 tpy.

In addition to this traditional estimation of emission reductions, EPA employed the ISIS model to estimate emission reductions from the NESHAP and NSPS. The estimation of emission reductions in the ISIS model accounts for the optimization of the industry and includes the addition of new kilns, kiln retirements, replacements, and expansions as well as installation of controls. Using the ISIS model, in 2013 we estimate reductions of 12,627 lbs of mercury, 10,809 tons of THC, 4,307 tons of HCl, 5,729 tons of PM (does not include reductions in secondary PM), and 80,245 tons of SO_2, and 14,159 tons of NO_X compared to emissions that would occur in 2013 in the absence of the NESHAP and NSPS. As noted, the ISIS model estimates lower SO_2 reductions because the model optimizes kiln retirements, replacements, and expansions as well as installation of controls. We did not determine ambient PM benefits based on the ISIS model's predicted emission reductions. However, even with this lower SO_2 reduction estimate, the secondary PM impacts would likely constitute a majority of the total ambient PM impacts. More information on the ISIS Model and results can be found in the ISIS TSD and in a Technical Memo to the docket.

Under the final standards, new monitoring requirements are being added. Particulate matter CEMS are being required on kilns and clinker coolers. For cement kilns, CEMS are required for measurement of THC, NO_X and SO_2. For kilns that do not have wet scrubbers, CEMS are required to monitor HCl emissions. Continuous emission measurement (CEMS or sorbent traps) are required for measurement of mercury emissions. There is insufficient data to quantify the emissions reduction that will result from these requirements. However, emissions reductions will occur as a result of the availability of continuous information on kiln and control device performance and a reduction in the length of time that operations are outside of acceptable conditions. Also, periods of excursions from acceptable conditions will be identified more quickly with continuous monitoring than with less frequent approaches, thus reducing the duration of such excursions.

4. What are the water quality impacts?

We estimated no water quality impacts for the proposed amendments. The requirements that might result in the use of alkaline scrubbers will produce a scrubber slurry liquid waste stream. However, we assume the scrubber slurry produced will be dewatered and added back into the cement-making process as gypsum. Water from the dewatering process will be recycled back to the scrubber. The four facilities (five kilns) that currently use wet scrubbers in this industry report no water releases at any time.[46] We requested comment in the Portland Cement NEHSAP proposal on the potential for water releases due to wet scrubber system purges and any regulations that might apply. Though commenters raised concerns of the possibility of water impacts, they did not provide a rationale of why it would be expected when it is not occurring at the four facilities that currently use wet scrubbers, due to their on-site reuse of water. If discharges did occur, there would be a potential for water quality issues. But given these facts, we believe our estimate of no water quality impacts resulting from production of waste water by wet scrubbers is reasonable.

The addition of scrubbers will increase water usage by about 4,200 million gallons per year. For a new 1.2 million tpy kiln, water usage will be 72 million gallons per year or 630 million gallons by 2013 for all kilns subject to new source limits for HCl and NSPS limits.

We did receive comments that in some areas there is not sufficient water available to support this increase in water use. We do not have sufficient data to perform an analysis of this situation, but we note that other less water intensive controls (dry injection of various sorbents, spray dryers) are available for control of HCl. This is further discussed in the cost impacts section.

5. What are the solid waste impacts?

The potential for solid waste impacts are associated with greater PM control for kilns, waste generated by ACI systems and solids resulting from solids in scrubber slurry water. As explained above, we have assumed little or no solid waste is expected from the generation of scrubber slurry because the solids from the slurry are used in the finish mill as a raw material. All of the facilities currently using wet scrubber use mix the gypsum created in the scrubber with clinker in the finish mill. A commenter noted that the synthetic gypsum can be difficult to dewater, but currently operating facilities seem to have solved this issue. Another commenter notes that facilities with low SO_2 levels may produce such small amounts of gypsum. Theoretically, this could result in a situation where it is impractical to dewater the gypsum, and it must be land filled. However, we anticipate that the total amounts of waste will not be significant and the cost impact (compared to the total scrubber costs) will be minimal.

The PM captured in the kiln fabric filter (cement kiln dust) is essentially recaptured raw material, intermediate materials, or product. Based on the available information, it appears that most captured PM is typically recycled back to the kilns to the maximum extent possible. Therefore we estimate that any additional PM captured will also be recycled to the kiln to the extent possible.

Where equipped with an alkali bypass, the bypass will have a separate PM control device and that PM is typically disposed of as solid waste. An alkali bypass is not utilized on all kilns. Where one is present, the amount of solid waste generated from the alkali bypass is minimal, usually about 1

[46] Summary of Responses to Requests for Water Impacts Information. August 5, 2010.

percent of total CKD in control devices, because the bypass gas stream is a small percentage of total kiln exhaust gas flow and the bypass gas stream does not contact the feed stream in the raw mill.

Waste collected in the polishing baghouse associated with ACI that might be added for mercury or THC control cannot be recycled to the kiln and will be disposed of as solid waste. An estimated 122,000 tpy of solid waste will be generated from the use of ACI systems on existing kilns. A typical new kiln subject to new source mercury standards equipped with an ACI system will be expected to generate 1,800 tons of solid waste per kiln or, assuming all 16 of the kilns subject to new source standards will add ACI systems, about 35,000 tpy in the year 2013.

In addition to the solid waste impacts described above, there is a potential for an increase in solid waste generation if a facility elects to control its mercury emissions by increasing the amount of CKD wasted rather than returned to process. This will be a site-specific decision, and we have no data to estimate the potential solid waste that may be generated by this practice. However, we expect the total amount to be small for two reasons. First, wasting cement kiln dust for mercury control represents a significant expense to a facility because it will be essentially wasting either raw materials or product. We anticipate this option will not be used if the amount of CKD wasted will be large. Second, we believe that cement manufacturers will add the additional CKD to the finish mill to the maximum extent possible rather than waste the material.

6. What are the secondary impacts?

Indirect or secondary air quality impacts include impacts that will result from the increased electricity usage associated with the operation of control devices as well as water quality and solid waste impacts (which were just discussed) that will occur as a result of these final revisions. We estimate these final revisions will increase emissions of criteria pollutants from utility boilers that supply electricity to the Portland cement facilities. We estimate increased energy demand associated with the installation of scrubbers, ACI systems, and RTO. The increases for kilns subject to existing source standards are estimated to be 1,700 tpy of NO_X, 900 tpy of CO, 3,000 tpy of SO_2 and about 90 tpy of PM. For kilns subject to new source standards, increases in secondary air pollutants are estimated to be 440 tpy of NO_X, 230 tpy of CO, 760 tpy of SO_2 and 20 tpy of PM. We also estimated increases of CO_2 to be 0.9 million tpy for kilns subject to existing source standards and 209,000 tpy for kilns subject to new source standards.

The increase in electricity usage for the pumps used in the SNCR system to deliver reagent to the kiln are negligible.

7. What are the energy impacts?

The addition of alkaline scrubbers, ACI systems, and RTO added to comply with the final amendments will result in increased energy use due to the electrical requirements for the scrubber and ACI systems and increased fan pressure drops, and natural gas to fuel the RTO. We estimate the additional national electrical demand to be 800 million kWhr per year and the natural gas use to be 1.2 million MMBtu per year for kilns subject to existing source standards. For kilns subject to new source standards, the electrical demand is estimated to be 199 million kWhr per year.

8. What are the cost impacts?

Under the final amendments, existing kilns are expected to add one or more control devices to comply with the final emission limits. In addition, kiln and clinker coolers will be required to install varying numbers of CEMS or continuous emissions monitors. We performed two separate cost analyses for this final rule. In the engineering cost analysis, we estimated the cost of the final amendments based on the type of control device that was assumed to be necessary to comply with the final emission standards. Based on baseline emissions of mercury, THC, HCl and PM for each kiln and the removal efficiency necessary to comply with the final emission limit for each HAP, an appropriate control device was identified. In assigning control devices to each kiln where more than one control device will be capable of reducing emissions of a particular HAP below the limit, we assumed that the least costly control will be installed. For example, if a kiln could use either a scrubber or ACI to comply with the final limit for mercury, it was assumed that ACI will be selected over a scrubber because an ACI system will be less costly. ACI also is expected to achieve a higher removal efficiency than a scrubber for mercury (90 percent versus 80 percent). In some instances, a more expensive technology was considered appropriate because the selected control reduced emissions of multiple pollutants. For example, even though ACI will be less costly than a scrubber for controlling mercury, if the kiln also had to reduce HCl (and, for new kilns subject to the NSPS amendments SO_2) emissions, we assumed that a scrubber will be applied to control HCl as well as mercury because ACI will not control HCl. However, for many kilns, our analysis assumes that multiple controls will have to be added because more than one control will be needed to control all HAP. For example, ACI may be considered necessary to meet the limits for THC/organic HAP and/or mercury. For the same kiln, a scrubber will also be required to reduce HCl emissions. In this case we allocate the cost of the control to controlling mercury emissions, not to the cost of controlling HCl emissions. In addition, once we assigned a particular control device, in most cases we assumed mercury, HCl and THC/organic HAP emissions reductions will equal the control device efficiency, and not the minimum reduction necessary to meet the emissions limit. We believe this assumption is warranted because it matches costs with actual emissions reductions. In the case of PM, we assumed the controlled facility will emit at the average level necessary to meet the standard (*i.e.*, we assumed for PM that the controlled facility will emit at 0.01 lb/ton clinker, the average emission level, not 0.04 lb/ton clinker, the actual emissions limit), because the final emissions levels are extremely low.

As previously discussed, in the case of the two facilities that require mercury emission reduction of 98 percent or more, we estimated the cost impacts by costing the two mercury control for which we have cost data, ACI and wet scrubbers. We believe this estimate is a conservative estimate of the costs these facilities will ultimately incur to meet the mercury emissions limit, based on the fact that they may be able to meet the limit using dust shuttling and/or treatment of cement kiln dust, which, based on the limited amount and size of equipment required, is expected to have lower costs than wet scrubbing.

In a separate analysis performed using the ISIS model, we input into ISIS the baseline and controlled emissions rates for each pollutant, along with the maximum percent reduction achievable for a particular control technology, and allowed ISIS to base the control required on optimizing total production costs. In addition, the ISIS model accounts for normal kiln retirements that will occur even in the absence of any regulatory action (*i.e.*, as new kilns come on-line, older, less efficient and more costly to operate kilns are retired). In the first cost analysis, total national annual costs assume that all kilns currently operating continue to operate while 20 new kilns come on-line. In the ISIS model, the two highest mercury emitting kilns requiring a 98+ percent

mercury control are assumed to shut down in 2013 because no single mercury control applied to these kilns can meet a 98+ percent mercury reduction.

Table 11 presents the resulting add-on controls each approach estimated was necessary to meet the final emissions limits.

TABLE 11—CONTROL INSTALLATION COMPARISON

	LWS	ACI	LWS + ACI	MB	FF	WS + RTO	RTO	SNCR
Engineering Analysis	115	151	2	28	0	10	0	7
ISIS Model	30	42	29	6	2	6	15	7

In the engineering analysis, we estimated the total capital cost of installing alkaline scrubbers and ACI systems for mercury control, including monitoring systems, will be $339 million with an annualized cost of $113 million. Most of the ACI systems installed for mercury control will also control organic HAP and THC. Where ACI does not provide sufficient control of organic HAP and THC, RTO/wet scrubbers are used. The estimated capital cost of installing RTO/wet scrubbers to reduce THC emissions will be $253 million with annualized cost of $49 million. The capital cost of adding scrubbers for the control of HCl is estimated to be $1,882 million with an annualized cost of $261 million. The capital cost of adding membrane bags to existing fabric will be $57 million with annualized cost of $16 million. The total capital cost for the final amendments for kilns subject to existing source emissions limits will be an estimated $2.2 billion with an annualized cost of $377 million.

The estimated emission control capital cost per new 1.2 million tpy kiln is $3.2 million and the annualized costs are estimated at $1.2 million for mercury and THC/organic HAP control, and $3.6 million for HCl control. Because the new kiln will be equipped with a baghouse even in the absence of the rule and because the ACI system, which includes a polishing baghouse, will be installed for mercury and organic HAP control, there will be no additional cost for PM control. Under the NSPS, 7 new kilns will install SNCR to control NO_X and add NO_X CEMS at a capital cost of $19.6 million and an annualized cost of $10.9 million. The control of SO_2 under the NSPS will be accomplished by wet scrubbers installed for HCl control under the NESHAP so that no control costs are attributable to the NSPS. There will be SO_2 monitoring cost estimated at $1.1 million capital cost and $0.3 million annualized cost for the 7 new kilns subject to the NSPS. Flow monitoring devices are needed in conjunction with CEMS for NO_X and SO_2. Capital costs for flow monitoring devices will be $0.25 million capital and $0.1 million annualized costs. National annualized cost by the end of the fifth year for all new kilns will be an estimated $80.6 million.

In the ISIS results, we are not able to separate costs by pollutant because the model provides an overall optimization of the production and air pollution control costs. The total annual costs of the ISIS model for the NESHAP and NSPS are $350 million in 2013. This estimate is significantly lower than the total costs estimated by traditional methods.

It should be noted that for cases where more than a 50 percent reduction in HCl was required, we costed a wet scrubber. We note that some commenters have stated that some new and existing facilities may be located in areas where there is not sufficient water to operate a wet scrubber. However, in this rule we are not mandating wet scrubber control technology. Other control techniques are available (hydrated finely ground lime, spray dryers, fuel and additive switching) that we believe would allow a cement kiln to meet the HCl emission limits in areas where sufficient water for a wet scrubber is not available. However, we do not have data available on costs for these alternatives controls or techniques, some of which would be site specific. We would anticipate that costs of these techniques would be no more expensive that a wet scrubber. Therefore we believe that by costing wet scrubber technology in these situations we have not underestimated costs.

9. What are the economic impacts?

EPA employed both a partial-equilibrium economic model and the ISIS model to analyze the impact on the industry and the economy.

The Economic Impact Analysis model estimates the average national price for Portland cement could be 5.4 percent higher with the NESHAP and NSPS, or $4.50 per metric ton, while annual domestic production may fall by 11 percent, or 10 million tons per year. Because of higher domestic prices, imports are expected to rise by 3 million metric tons per year. Operating profits fall by $241 million.

Precise job effect estimates cannot be estimated with certainty. Ideally, whenever a regulatory change results in a reallocation of labor or other factors of production in an economy, a general equilibrium approach should be applied to estimate the attendant economic impacts. Unfortunately, time and resource constraints prevented the creation of a model with the spatial and sectoral resolution necessary to analyze the final rule. However, Morgenstern *et al.* (2002) provides a theoretical framework which allows us to approximate some of the relevant general equilibrium effects by identifying three economic mechanisms by which pollution abatement activities can indirectly influence: Higher production costs raise market prices, higher prices reduce consumption, and employment within an industry falls ("demand effect"); pollution abatement activities require additional labor services to produce the same level of output ("cost effect"); and post-regulation production technologies may be more or less labor intensive (*i.e.*, more/less labor is required per dollar of output) ("factor-shift effect").

Several empirical studies, including Morgenstern *et al.* (2002), suggest the net employment decline is zero or economically small (*e.g.*, Cole and Elliot, 2007; Berman and Bui, 2001). However, others show the question has not been resolved in the literature (Henderson, 1996; Greenstone, 2002). Morgenstern *et al.* use a 6-year panel (U.S. Census data for plant-level prices, inputs [(including labor], outputs, and environmental expenditures) to econometrically estimate the production technologies and industry-level demand elasticities. Their identification strategy leverages repeat plant-level observations over time and uses plant-level and year fixed effects (*e.g.*, dummy variables for plant and years). After estimating their model, Morgenstern show and compute the change in employment associated with an additional $1 million ($1987) in environmental spending. Their estimates cover four manufacturing

industries (pulp and paper, plastics, petroleum, and steel) and Morgenstern *et al.* present results separately for the cost, factor shift, and demand effects, as well as the net effect. They also estimate and report an industry-wide average parameter that combines the four industry-wide estimates and weight them by each industry's share of environmental expenditures.

Historically, EPA has most often estimated employment changes associated with plant closures due to environmental regulation or changes in output for the regulated industry (EPA, 1999a; EPA, 2000). This partial equilibrium approach focuses only on the "demand" portion of the projected change in employment and neglects other employment changes. EPA provides this estimate because it employs the most detailed modeling for the industry being regulated even if it does not capture all types of employment impacts. In addition to the employment effects identified by Morgenstern *et al.*, we also expect that the substitutes for cement (*e.g.*, asphalt) would expand production as consumers shift away from cement to other products. This would also lead to increased employment in those industries. Focusing only on the "demand effect", it can be seen that the estimate from the historical approach is within the range presented by the Morgenstern "demand effect" portion. This strengthens our comfort in the reasonableness of both estimates. In April of this year, EPA started including an estimate based on the Morgenstern approach because it is thought to be a broader measure of the employment impacts of this type of environmental regulation. Thus, this analysis goes beyond what EPA has typically done because the parameters estimated in the Morgenstern paper were used to estimate all three effects ("demand," "cost," and "factor shift"). This transfer of results from the Morgenstern study is uncertain but avoids ignoring the "cost effect" and the "factor-shift effect."

Using the historical approach, we calculated "demand effect" employment changes by assuming that the number of jobs declines proportionally with the economic model's simulated output changes. As shown in Table 3–10, using this limited approach, the employment falls by an 1,500 jobs, or approximately −10 percent.[47] By comparison, using the Morgenstern approach, we estimate that the net employment effects could range between 600 job losses to 1,300 job gains.

EPA has solely used this historical estimate in the past as a measure of the projected employment change associated with a regulation. However there are a number of serious shortcomings with this approach. First, and foremost, the historical approach only looks at the employment effects on the regulated industry from reduced output. Second, to arrive at that estimate, EPA needed to string together a number of strong assumptions. The employment impacts are independent of the performance of the overall economy. This rule takes effect in three years. If the economy is strong, the demand for cement strong, it is unlikely that any contraction in the industry will take place, even with the regulation. Second, we assume that all plants have the same limited ability to pass on the higher costs. In reality, plants should be modeled as oligopolists for each of their regional markets. Finally, EPA assumed that employment is directly proportional to output. This is unlikely, and biases the results towards higher employment losses. The Morgenstern methodology is a more complete consideration of probable impacts of a regulation on the economy.

TABLE 12—JOB LOSSES/GAINS ASSOCIATED WITH THE FINAL RULE

Method	1,000 Jobs
Partial equilibrium model (demand effect only)	−1.5
Literature-based estimate (net effect [A + B + C below])	0.3 (−0.6 to +1.3).
A. Literature-based estimate: Demand effect	−0.8 (−1.7 to +0.1).
B. Literature-based estimate: Cost effect	0.5 (+0.2 to +0.9).
C. Literature-based estimate: Factor shift effect	0.6 (+0 to +1.2).

We calculated a similar "demand effect" estimate that used the Morgenstern paper. EPA selected this paper because the parameter estimates (expressed in jobs per million [$1987] of environmental compliance expenditures) provide a transparent and tractable way to transfer estimates for an employment effects analysis. Similar estimates were not available from other studies. To do this, we multiplied the point estimate for the total demand effect (−3.56 jobs per million [$1987] of environmental compliance expenditure) by the total environmental compliance expenditures used in the partial equilibrium model. For example, the jobs effect estimate for is estimated to be 807 jobs (−3.56 × $378 million × 0.6).[48] Demand effect results are provided in Table 12. It is not appropriate to substitute the data from that approach in to the Morgenstern due to the incompatibilities of the underlying data. Since the result from the historical approach is within the confidence bounds for the Morgenstern results for the "demand effect", we are comfortable that the more general Morgenstern result is a good representation of the change in employment.

We also present the results of using the Morgenstern paper to estimate employment "cost" and "factor-shift" effects. Although using the Morgenstern parameters to estimate these "cost" and "factor-shift" employment changes is uncertain, it is helpful to compare the potential job gains from these effects to the job losses associated with the "demand" effect. Table 12 shows that using the "cost" and "factor shift" employment effects may offset employment loss estimates using either "demand" effect employment losses. The 95 percent confidence intervals are shown for all of the estimates based on

[47] To place this reduction in context, it is similar to the decline experienced during the latest economic downturn; approximately 2,000 jobs (see Appendix A, Table A–3).

[48] Since Morgenstern's analysis reports environmental expenditures in 1987 dollars, we make an inflation adjustment to the engineering cost analysis using the consumer price index ((195.3/113.6) = 0.6).

the Morgenstern parameters. As shown, at the 95 percent confidence level, we cannot be certain if net employment changes are positive or negative.

Although the Morgenstern paper provides additional information about the potential job effects of environmental protection programs, there are several qualifications EPA considered as part of the analysis. First, EPA has used the weighted average parameter estimates for a narrow set of manufacturing industries (pulp and paper, plastics, petroleum, and steel). Absent other data and estimates, this approach seems reasonable and the estimates come from a respected peer-reviewed source. However, EPA acknowledges the final rule covers an industry not considered in the original empirical study. By transferring the estimates to the cement sector, we make the assumption that estimates are similar in size. In addition, EPA assumes also that Morgenstern *et al.*'s estimates derived from the 1979–1991 are still applicable for policy taking place in 2013, almost 20 years later. Second, the economic impact model only considers near-term employment effects in the cement industry where production technologies are fixed. As a result, the economic impact model places more emphasis on the short-term "demand effect," whereas the Morgenstern paper emphasizes other important long-term responses. For example, positive job gains associated with "factor shift effects" are more plausible when production choices become more flexible over time and industries can substitute labor for other production inputs. Third, the Morgenstern paper estimates rely on sector demand elasticities that are different (typically bigger) from the demand elasticity parameter used in the cement model. As a result, the demand effects are not directly comparable with the demand effects estimated by the cement model. Fourth, Morgenstern identifies the industry average as economically and statistically insignificant effect (*i.e.*, the point estimates are small, measured imprecisely, and not distinguishable from zero). EPA acknowledges this fact and has reported the 95 percent confidence intervals in Table 12. Fifth, Morgenstern's methodology assumes large plants bear most of the regulatory costs. By transferring the estimates, EPA assumes a similar distribution of regulatory costs by plant size and that the regulatory burden does not disproportionately fall on smaller plants.

EPA identified ten domestic plants with significant utilization changes that could temporarily idle until market demand conditions improve. It should be noted that some of these plant may be idled even in the absence of this action based on a review of recent history of this industry. The plants are small capacity plants with unit compliance costs close to $8 per ton and $241 million total change in operating profits. Since these plants account for approximately 8 percent of domestic capacity, a decision to permanently shut down these plants will reduce domestic supply and lead to additional projected market price increases. If any plants closed or idled there would also be a savings from not having to incur pollution control costs. A rough estimate of the change in social cost if all ten were to idle or close is a reduction in social cost of $24 million.[49]

The estimated domestic social cost of the final amendments is $926 to $950 million. There is an estimated $121 million surplus gain for other countries producing cement. The social cost estimates are significantly higher than the engineering analysis estimates, which estimated annualized costs of $466 million. This is a direct consequence of EPA's assumptions about existing domestic plants' pricing behavior. Under baseline conditions without regulation, the existing domestic cement plants are assumed to choose a production level that is less than the level produced under perfect competition. The imposition of additional regulatory costs tends to widen the gap between price and marginal cost in these markets and contributes to additional social costs. For more detail see the Regulatory Impact Analysis (RIA).

Using the ISIS model, we estimated 12 kilns (9 million tons of capacity) may be idled as a result of this final rulemaking. ISIS estimates a range of 1,105–1,134 jobs lost associated with the capacity idling. In ISIS, kilns are modeled producing at their capacity levels after taking into consideration normal downtime days. If the kilns owners decide to operate the kilns at a lower utilization rate a lower the number of kilns idling is expected to be lower.

As a result of this action, ISIS projects cement industry revenues are projected to decline by 4.5 percent, or $421 million. We estimate cement demand to drop 5.7 percent in 2013 or 7.0 million tons as a result of this action. The drop in demand will affect the domestic production and imports. Domestic production may fall by 9.6 percent or 9.0 million tons in 2013 compared to the baseline. Imports are likely to rise by 2.0 million tons. ISIS estimates that the average national price for Portland cement in 2013 could be 6.8 percent higher, or $5.79 per metric ton. More information on this model can be found in the ISIS TSD and in a Technical Memo to the docket.

10. What are the benefits?

We estimated the monetized benefits of this final regulatory action to be $7.4 billion to $18 billion (2005$, 3 percent discount rate) in the implementation year (2013). The monetized benefits of the final regulatory action at a 7 percent discount rate are $6.7 billion to $16 billion (2005$). Using alternate relationships between $PM_{2.5}$ and premature mortality supplied by experts, higher and lower benefits estimates are plausible, but most of the expert-based estimates fall between these two estimates.[50] A summary of the avoided health benefits and the associated monetized benefits estimates at discount rates of 3 percent and 7 percent are provided in Table 13 of this preamble.

TABLE 13—SUMMARY OF THE AVOIDED HEALTH INCIDENCES AND MONETIZED $PM_{2.5}$ BENEFITS ESTIMATES FOR THE FINAL PORTLAND CEMENT NESHAP AND NSPS

	Avoided health incidences	Monetized benefits (millions of 2005$, 3% discount rate)	Monetized benefits (millions of 2005$, 7% discount rate)
Avoided Premature Mortality	960 to 2,500	$7,600 to $19,000	$6,900 to $17,000.

[49] In addition to the ten plants identified that could temporarily idle or permanently shut down, there are two plants with unusually high mercury emissions that cannot meet the mercury emission limit using any single control system. However, we are assuming that they will apply multiple controls to meet the limit and have accounted for multiple controls in our cost analysis.

[50] Roman *et al.*, 2008. Expert Judgment Assessment of the Mortality Impact of Changes in Ambient Fine Particulate Matter in the U.S. Environ. Sci. Technol., 42, 7, 2268–2274.

TABLE 13—SUMMARY OF THE AVOIDED HEALTH INCIDENCES AND MONETIZED $PM_{2.5}$ BENEFITS ESTIMATES FOR THE FINAL PORTLAND CEMENT NESHAP AND NSPS—Continued

	Avoided health incidences	Monetized benefits (millions of 2005$, 3% discount rate)	Monetized benefits (millions of 2005$, 7% discount rate)
Avoided Morbidity:			
Chronic Bronchitis	650	$19	$19.
Acute Myocardial Infarction	1,500	$11	$11.
Hospital Admissions, Respiratory	240	$0.2	$0.2.
Hospital Admissions, Cardiovascular	500	$0.9	$0.9.
Emergency Room Visits, Respiratory	1,000	$0.03	$0.03.
Acute Bronchitis	1,500	$0.01	$0.01.
Work Loss Days	130,000	$1.2	$1.2.
Asthma Exacerbation	17,000	$0.06	$0.06.
Minor Restricted Activity Days	750,000	$3.0	$3.0.
Lower Respiratory Symptoms	18,000	$0.02	$0.02.
Upper Respiratory Symptoms	14,000	$0.03	$0.03.

Note: All estimates are for the implementation year (2013), and are rounded to two significant figures so numbers may not sum across rows. All fine particles are assumed to have equivalent health effects. Benefits from reducing hazardous air pollutants (HAPs) are not included. These estimates do not include the energy disbenefits of $210 to $470 million.

These benefits estimates represent the human health benefits associated with reducing exposure to fine particulate matter ($PM_{2.5}$). The PM reductions are the result of emission limits on PM as well as emission limits on other pollutants, including hazardous air pollutants (HAPs) for the NESHAP and criteria pollutants for the NSPS. To estimate the human health benefits, we used the environmental Benefits Mapping and Analysis Program (BenMAP) model to quantify the changes in $PM_{2.5}$-related health impacts and monetized benefits based on changes in air quality. This approach is consistent with the recently proposed Transport Rule RIA.[51]

For this final rule, we have expanded and updated the analysis since the proposal in several important ways. Using the Comprehensive Air Quality Model with extensions (CAMx) model, we are able to provide cement sector-specific air quality impacts attributable to the emission reductions anticipated from this final rule. We believe that this modeling provides a superior representation of the geographic distribution of air quality impacts than the national average benefit-per-ton estimates used for the proposal analysis. Furthermore, CAMx modeling allows us to model the reduced mercury deposition that would occur as a result of the estimated reductions of mercury emissions.

Although we are unable to model mercury methylation and human consumption of mercury-contaminated fish, the mercury deposition maps provide an improved qualitative characterization of the mercury benefits associated with this final rulemaking. Lastly, we added qualitative descriptions of the benefits categories that we are unable to quantify and monetize, including the benefits of reducing hazardous air pollutants and ecosystem effects.

In addition, the $PM_{2.5}$ benefits for this final rulemaking reflect EPA's current interpretation of the economic literature on mortality valuation by using the value-of-a-statistical life (VSL) based on a meta-analysis of 26 studies.[52] The $PM_{2.5}$ benefits are generally consistent with the methodology used in the proposal after adjusting for the revised VSL, and these estimates reflect EPA's decision to remove the arbitrarily assumed threshold from the health impact function.

For these rules the SO_2 reductions represent a large fraction of the total monetized benefits from reducing $PM_{2.5}$, but it is not possible to isolate the portion if the total monetized benefits attributable to the emission reductions of SO_2 resulting from the application of HCl controls. The benefits models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type.

For context, it is important to note that the magnitude of the $PM_{2.5}$ benefits is largely driven by the concentration response function for premature mortality. Experts have advised EPA to consider a variety of assumptions, including estimates based both on empirical (epidemiological) studies and judgments elicited from scientific experts, to characterize the uncertainty in the relationship between $PM_{2.5}$ concentrations and premature mortality. For this final rulemaking we cite two key empirical studies, one based on the American Cancer Society cohort study[53] and the extended Six Cities cohort study.[54]

Alternate models identified by experts describing the relationship between $PM_{2.5}$ and premature mortality would yield higher and lower estimates depending upon the assumptions that they made, but most of the expert-based estimates fall between the two epidemiology-based estimates (Roman *et al.* 2008).

EPA strives to use the best available science to support our benefits analyses. We recognize that interpretation of the science regarding air pollution and health is dynamic and evolving. The question of whether or not to assume a threshold in calculating the benefits associated with reductions in $PM_{2.5}$ is an issue that affects the benefits calculations not only for this rule but for many other EPA rulemakings and analyses. Due to these implications, we solicited comment on appropriateness of both the no-threshold and threshold model for PM benefits analysis as part of the proposal of this rule.

[51] U.S. Environmental Protection Agency, 2010. Proposed RIA for the Transport Rule. Prepared by Office of Air and Radiation. June. Available on the Internet at *http://www.epa.gov/ttn/ecas/ria.html.*

[52] In June 2009, EPA's Office of Air and Radiation revised the VSL used in air regulations to be consistent with the estimate used by the rest of the agency. Until updated guidance is available, EPA determined that a single peer-reviewed estimate applied consistently across the agency best reflects the advice it has received.

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

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

Three commenters did not support adopting a no-threshold model because it would obscure the greater uncertainty associated with calculated premature mortality at low PM concentrations and because it would be premature prior to the conclusion of the PM NAAQS review.

Shortly after the end of the comment period, EPA finalized the Integrated Science Assessment for Particulate Matter,[55] which was reviewed twice by EPA's Clean Air Scientific Advisory Committee, and concluded that the scientific literature consistently finds that a no-threshold log-linear model most adequately portrays the PM-mortality concentration-response relationship while recognizing potential uncertainty about the exact shape of the concentration-response function. In addition, the Human Health Subcommittee of EPA's Science Advisory Board recently concluded, "The HES fully supports EPA's decision to use a no-threshold model to estimate mortality reductions. This decision is supported by the data, which are quite consistent in showing effects down to the lowest measured levels. Analyses of cohorts using data from more recent years, during which time PM concentrations have fallen, continue to report strong associations with mortality. Therefore, there is no evidence to support a truncation of the CRF [concentration-response function]."[56]

After reviewing the public comments in conjunction with our review of the scientific literature and the Science Advisory Board's comments, we have determined that the no-threshold model is the most appropriate model for assessing the mortality benefits associated with reducing $PM_{2.5}$ exposure. Consistent with this recent scientific advice, we are replacing the previous threshold sensitivity analysis with a new "Lowest Measured Level" (LML) assessment. While an LML assessment provides some insight into the level of uncertainty in the estimated PM mortality benefits, EPA does not view the LML as a threshold and continues to quantify PM-related mortality impacts using a full range of modeled air quality concentrations.

Most of the estimated PM-related benefits in this rule accrue to populations exposed to higher levels of $PM_{2.5}$. Using the Pope *et al.* (2002) study, about 94 percent occur among populations with baseline exposure to annual mean $PM_{2.5}$ levels at or above 7.5 $\mu g/m^3$. Using the Laden *et al.* (2006) study, about 58 percent occur among populations with baseline exposure to annual mean $PM_{2.5}$ levels at or above 10 $\mu g/m^3$. It is important to emphasize that we have high confidence in $PM_{2.5}$-related effects down to the lowest LML of the major cohort studies. This fact is important, because as we estimate PM-related mortality among populations exposed to levels of $PM_{2.5}$ that are successively lower, our confidence in the results diminishes. However, our analysis shows that the great majority of the impacts occur at higher exposures.

It should be emphasized that the monetized benefits estimates provided above do not include benefits from several important benefit categories, including reducing other air pollutants, ecosystem effects, and visibility impairment. The benefits from reducing other pollutants have not been monetized in this analysis, including reducing 4,400 tons of NO_X, 5,800 tons of hydrochloric acid, 5,200 tons of organic HAPS, and over 16,000 pounds of mercury each year. In addition, we were unable to quantify the additional emission reductions that would occur if cement facilities temporarily idle or reduce capacity utilization as a result of this regulation, or the unquantifiable amount of reductions in condensable PM. Although we do not have sufficient information or modeling available to provide monetized estimates for this rulemaking, we include a qualitative assessment of the health effects of these air pollutants in the RIA for this rule, which is available in the docket.

In addition, the monetized benefits estimates provided in Table 13 do not reflect the disbenefits associated with increased electricity usage from operation of the control devices. We estimate that the increases in emissions of NO_X, SO_2, PM, and CO_2 would have disbenefits valued at $210 million to $470 million at a 3% discount rate. The total monetized benefits estimates of $7.4 billion to $18 billion (2005$, 3 percent discount rate) and $6.7 billion to $17 billion (2005$, 7% discount rate) reflect these energy disbenefits.

This analysis does not include the type of detailed uncertainty assessment found in the 2006 $PM_{2.5}$ NAAQS RIA or 2008 Ozone NAAQS RIA. However, the benefits analyses in these RIAs provide an indication of the sensitivity of our results to various assumptions, including the use of alternative concentration-response functions and the fraction of mortality impacts at low $PM_{2.5}$ levels.

The social costs of this rulemaking are estimated at $880 million (2005$) in the year of full implementation, and the benefits are estimated at $7.4 billion to $18 billion (2005$, 3 percent discount rate) for that same year. The benefits at a 7 percent discount rate are $6.7 billion to $16 billion (2005$). Thus, net benefits of this rulemaking are estimated at $6.5 billion to $17 billion (2005$, 3 percent discount rate). The net benefits at a 7 percent discount rate are $5.8 billion to $16 billion (2005$). Using alternate relationships between $PM_{2.5}$ and premature mortality supplied by experts, higher and lower benefits estimates are plausible, but most of the expert-based estimates fall between these two estimates. EPA believes that the benefits are likely to exceed the costs by a significant margin even when taking into account the uncertainties in the cost and benefit estimates.

A final issue on benefits concerns the air impacts of increases in imports. When a regulation leads to increases in imports and only the domestic emission changes are considered in a benefit analysis, the question of the impact of emissions from the increased production in other countries should be examined. The extra emissions may have an impact on the regulating country (the U.S.) and the other countries. The location of these extra emissions and the pollutants involved are both important. Our economic modeling does not involve estimates of the origin of the imports. We also do not have information about the level of control for facilities in other countries. Thus, estimating disbenefits associated with these increased emissions in other countries was beyond what we were able to do in this analysis.

However, another limitation of our analysis produces a bias in the opposite direction. The economic impact analysis estimated a 10 million ton decrease in domestic production. No emission reductions were estimated as a result of this change in production. The benefit analysis was based on emission reductions associated with control being applied to all facilities with no change in capacity utilization. The increase in imports was estimated to be 3 million tons. Thus we omitted an emission reduction associated with a 10 million ton decrease in production in this country while also omitting an increase in emissions for an increase in

[55] U.S. Environmental Protection Agency (U.S. EPA). 2009. Integrated Science Assessment for Particulate Matter (Final Report). EPA–600–R–08–139F. National Center for Environmental Assessment—RTP Division. December. Available on the Internet at *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546.*

[56] U.S. Environmental Protection Agency—Science Advisory Board (U.S. EPA–SAB). 2010. Review of EPA's DRAFT Health Benefits of the Second Section 812 Prospective Study of the Clean Air Act. EPA–COUNCIL–10–001. June. Available on the Internet at *http://yosemite.epa.gov/sab/sabproduct.nsf/0/72D4EFA39E48CDB28525774500738776/$File/EPA-COUNCIL-10-001-unsigned.pdf.*

production in other countries of less than a third of the domestic decrease. Of course the net result of these two omissions depends on the relative emission rates of the countries involved. Analysis of benefits for either of these two types of emissions is beyond the current scope of the benefit analysis.

For more information, please refer to the RIA for this final rule that is available in the docket.

VII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

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

When estimating the $PM_{2.5}$-related human health benefits and compliance costs in Table 14 below, EPA applied methods and assumptions consistent with the state-of-the-science for human health impact assessment, economics and air quality analysis. EPA applied its best professional judgment in performing this analysis and believes that these estimates provide a reasonable indication of the expected benefits and costs to the nation of this rule. The Regulatory Impacts Analysis (RIA) available in the docket describes in detail the empirical basis for EPA's assumptions and characterizes the various sources of uncertainties affecting the estimates below.

When characterizing uncertainty in the PM-mortality relationship, EPA has historically presented a sensitivity analysis applying alternate assumed thresholds in the PM concentration-response relationship. In its synthesis of the current state of the PM science, EPA's 2009 Integrated Science Assessment (ISA) for Particulate Matter concluded that a no-threshold log-linear model most adequately portrays the PM-mortality concentration-response relationship. In the RIA accompanying this rule, rather than segmenting out impacts predicted to be associated levels above and below a "bright line" threshold, EPA includes a "lowest-measured-level (LML)" that illustrates the increasing uncertainty that characterizes exposure attributed to levels of $PM_{2.5}$ below the LML for each study. Figures provided in the RIA show avoided PM mortality impacts predicted relative to the baseline $PM_{2.5}$ levels experienced by the population receiving the $PM_{2.5}$ mortality benefit, as well as the lowest air quality levels measured in each of the epidemiology cohort studies. This information allows readers to determine the portion of PM-related mortality benefits occurring above or below the LML of each study; in general, our confidence in the size of the estimated reduction $PM_{2.5}$-related premature mortality decreases in areas where annual mean $PM_{2.5}$ levels are further below the LML in the cohort studies. Using the Pope *et al.* (2002) study, about 94 percent occur among populations with baseline exposure to annual mean $PM_{2.5}$ levels at or above 7.5 $\mu g/m^3$. Using the Laden *et al.* (2006) study, about 58 percent occur among populations with baseline exposure to annual mean $PM_{2.5}$ levels at or above 10 $\mu g/m^3$. While the LML analysis provides some insight into the level of uncertainty in the estimated PM mortality benefits, EPA does not view the LML as a threshold and continues to quantify PM-related mortality impacts using a full range of modeled air quality concentrations.

Table 14 shows the results of the cost and benefits analysis for this rule.

TABLE 14—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE FINAL PORTLAND CEMENT NESHAP AND NSPS IN 2013

[Millions of 2005$][1]

	3% Discount rate	7% Discount rate
Final NESHAP and NSPS		
Total Monetized Benefits[2]	$7,400 to $18,000	$6,700 to $16,000.
Total Social Costs[3]	$926 to $950	$926 to $950.
Net Benefits	$6,500 to $17,000	$5,800 to $15,000
Non-monetized Benefits	4,400 tons of NO_X (includes energy disbenefits).	
	5,200 tons of organic HAPs.	
	5,900 tons of HCl.	
	16,400 pounds of mercury.	
	Health effects from HAPs, NO_2, and SO_2 exposure.	
	Ecosystem effects.	
	Visibility impairment.	
Final NSPS only		
Total Monetized Benefits[2]	$510 to $1,300	$460 to $1,100.
Total Social Costs[3]	$72	$72.
Net Benefits	$440 to $1,200	$390 to $1,000.
Non-monetized Benefits	6,600 tons of NO_X.	
	520 tons of HCl.	

TABLE 14—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE FINAL PORTLAND CEMENT NESHAP AND NSPS IN 2013—Continued

[Millions of 2005$] [1]

	3% Discount rate	7% Discount rate
	Health effects from HAPs, NO_2, and SO_2 exposure.	
	Ecosystem effects.	
	Visibility impairment.	
Final NESHAP only		
Total Monetized Benefits [2]	$7,400 to $18,000	$6,700 to $16,000.
Total Social Costs [3]	$904 to $930	$904 to $930.
Net Benefits	$6,500 to $17,000	$5,800 to $16,000.
Non-monetized Benefits	5,200 tons of organic HAPs.	
	5,900 tons of HCl.	
	16,000 pounds of mercury.	
	Health effects from HAPs, SO_2 exposure.	
	Ecosystem effects.	
	Visibility impairment.	
Alternative: More Stringent NSPS and Final NESHAP		
Total Monetized Benefits [2]	$7,400 to $18,000	$6,700 to $16,000.
Total Social Costs [3]	$955 to $979	$955 to $979.
Net Benefits	$6,500 to $17,000	$5,700 to $15,000.
Non-monetized Benefits	7,800 tons of NO_X (includes energy disbenefits).	
	5,200 tons of organic HAPs.	
	5,900 tons of HCl.	
	16,400 pounds of mercury.	
	Health effects from HAPs, NO_2, and SO_2 exposure.	
	Ecosystem effects.	
	Visibility impairment.	

[1] All estimates are for the implementation year (2013), and are rounded to two significant figures.

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

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

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

B. Paperwork Reduction Act

1. Subpart F

The information requirements in the final amendments to subpart F 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 Request (ICR) document prepared by EPA has been assigned EPA ICR number 2307.01.

The final amendments to the NSPS for Portland cement plants apply to affected facilities constructed, modified, or reconstructed after June 16, 2008. The owner or operator of a new kiln is required to keep daily records of clinker production, install and operate PM CEMS, and operate NO_X and SO_2 CEMS. These requirements are based on the recordkeeping and reporting requirements in the NSPS General Provisions (40 CFR part 60, subpart A) which are mandatory for all operators subject to new source performance 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 EPA policies set forth in 40 CFR part 2, subpart B.

The annual burden for this information collection averaged over the first 3 years of this ICR is estimated to total 2,559 labor-hours per year at a cost

of $240,064 per year. The annualized capital costs are estimated at $45,626 per year and operation and maintenance costs are estimated at $52,450 per year. Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it 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.

2. Subpart LLL

The information collection requirements in this final rule have been submitted for approval to the OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document prepared by EPA has been assigned EPA ICR number 1801.07.

In most cases, new and existing kilns and in-line kiln/raw mills at major and area sources that are not already subject to emission limits for THC, mercury, and PM will become subject to the limits and associated compliance provisions in the current rule. Sources will have to install and operate CEMS for mercury, PM, and THC. Records of all calculations and data will be required. New compliance procedures will also apply to area sources subject to a PM limit in a format of lbs/ton of clinker. Cement plants also will be subject to new limits for HCl and associated compliance provisions which include compliance tests using EPA Method 321 and continuous monitoring for HCl for facilities that do not use a wet scrubber for HCl control. These requirements are based on the 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 EPA policies set forth in 40 CFR part 2, subpart B.

The annual burden for this information collection averaged over the first 3 years of this ICR is estimated to total 79,790 labor-hours per year at a cost of $7.75 million per year. The average annualized capital costs are estimated at $61.7 million per year and average operation and maintenance costs are estimated at $192,578 per year. Burden is defined at 5 CFR 1320.3(b).

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

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (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 impact of this rule on small entities, small entity is defined as: (1) A small business whose parent company has no more than 750 employees depending on the size definition for the affected NAICS code (as defined by Small Business Administration (SBA) size standards found at *http://www.sba.gov/idc/groups/public/documents/sba_homepage/serv_sstd_tablepdf.pdf*); (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.

1. Subpart F

After considering the economic impact of this final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. We estimate that 3 of the 26 existing Portland cement entities are small entities which will not incur any impacts under these final amendments unless an affected facility is constructed, modified, or reconstructed. Based on our economic analysis, 7 new kilns may be constructed during the next five years that will be subject to these NSPS amendments. One of these kilns may be operated by a Portland cement entity that is classified as a small entity according to the SBA small business size standards. Of these 7 kilns, this small entity is expected to incur an annualized compliance cost of between 1.0 and 3.0 percent of sales to comply with the final action.

Although this final rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities by the selection of an emission level based on highly cost-effective controls and specifying monitoring requirements that are the minimum to insure compliance. In the case where there are overlapping standards between this NSPS and the Portland Cement NESHAP, we have exempted sources from the least stringent requirement thereby eliminated overlapping monitoring, testing and reporting requirements by requiring that the source comply with only the more stringent of the standards.

2. Subpart LLL

After considering the economic impact of this final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. We estimate that up to 3 of the 26 existing Portland cement plants are small entities.

EPA performed a screening analysis for impacts on the three affected small entities by comparing compliance costs to entity revenues. EPA's analysis found that the ratio of compliance cost to company revenue for one small entity (a Tribal government) will have an annualized cost of less than 1 percent of sales. The other two small businesses will have an annualized cost of between 1 and three percent of sales.

Although this final rule will not impact a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities by setting the final emissions limits at the MACT floor, the least stringent level allowed by law. In the case where there are overlapping standards between this NESHAP and the Portland Cement NSPS, we have exempted sources from the least stringent requirement thereby eliminating the overlapping monitoring, testing and reporting requirements by requiring that the source comply with only the more stringent of the standards. In addition, we applied MACT for HCl emissions to major sources only. The reduced compliance costs for two of the three small entities by a factor of 4.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act (UMRA), 2 U.S.C 1531–1538, requires Federal agencies, unless otherwise prohibited by law, to assess the effects of their regulatory actions on State, local, and Tribal governments and

the private sector. Federal agencies must also develop a plan to provide notice to small governments that might be significantly or uniquely affected by any regulatory requirements. The plan must enable officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates and must inform, educate, and advise small governments on compliance with the regulatory requirements.

1. Subpart F

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 one year. As discussed earlier in this preamble, the estimated expenditures for the private sector in the fifth year after promulgation are $50 million. Thus, this final rule is not subject to the requirements of section 202 and 205 of the UMRA.

This final action is also not subject to the requirements of section 203 of the UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This final action contains no requirements that apply to such governments, imposes no obligations upon them, and will not result in expenditures by them of $100 million or more in any one year or any disproportionate impacts on them.

2. Subpart LLL

This rule contains a Federal mandate that may result in expenditures of $100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any one year. Accordingly, EPA has prepared under section 202 of the UMRA a written statement which is summarized below.

In developing this rule, EPA consulted with small governments under a plan developed pursuant to section 203 of UMRA concerning the regulatory requirements in the rule that might significantly or uniquely affect small governments. EPA has determined that this final action contains regulatory requirements that might significantly or uniquely affect small governments because we identified one of the facilities affected by the final rule as Tribally owned. EPA developed a plan to permit this Tribal entity to have meaningful and timely input into its development.

Consistent with the intergovernmental consultation provisions of section 204 of the UMRA, EPA initiated consultations with the governmental entities affected by this rule. EPA directly contacted the facility in question to insure it was appraised of this rulemaking and potential implications. This facility indicated it was aware of the rulemaking and was participating in meetings with the industry trade association concerning this rulemaking. The facility did not indicate any special issues other than those expressed by the industry in general, We are assuming that they have the same concerns as those expressed by the other non-Tribally owned facilities during the development of this final rule. Subsequent to proposal, EPA again contacted the Tribal Government by letter with an offer of consultation. We received no response to that letter.

Consistent with section 205, EPA has identified and considered a reasonable number of regulatory alternatives. EPA carefully examined regulatory alternatives, and selected the lowest cost/least burdensome alternative that EPA deems adequate to address Congressional concerns and to effectively reduce emissions of mercury, THC and PM. EPA has considered the costs and benefits of the final rule, and has concluded that the costs will fall mainly on the private sector (approximately $479 million). EPA estimates that an additional facility owned by a Tribal government will incur approximately $1.2 million in costs per year. Furthermore, we believe it is unlikely that State, local and Tribal governments would begin operating large industrial facilities, similar to those affected by this rulemaking operated by the private sector. EPA has selected regulatory alternatives that represent the MACT floor level of control, which is the least stringent level allowed by law.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" 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."

These two final rules do not have federalism implications. They 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. None of the affected facilities are owned or operated by State governments. Thus, Executive Order 13132 does not apply to these final rules.

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

Subject to the Executive Order 13175 (65 FR 67249, November 9, 2000) EPA may not issue a regulation that has Tribal 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 Tribal governments, or EPA consults with Tribal officials early in the process of developing the regulation and develops a Tribal summary impact statement.

1. Subpart F

This final action does not have Tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have substantial direct effects on Tribal governments, on the relationship between the Federal government and Indian Tribes, or on the distribution of power and responsibilities between the Federal government and Indian Tribes, as specified in Executive Order 13175. The final rule imposes requirements on owners and operators of specified industrial facilities and not Tribal governments. The only Tribally owned source is not affected by the amendments to subpart F. Thus, Executive Order 13175 does not apply to this action.

2. Subpart LLL

EPA has concluded that this action will have Tribal implications, because it will impose substantial direct compliance costs on Tribal governments, and the Federal government will not provide the funds necessary to pay those costs. One of the facilities affected by this final rule is Tribally owned. We estimate this facility will incur direct compliance costs that are between 1 to 3 percent of sales. Accordingly, EPA provides the following Tribal summary impact statement as required by section 5(b).

EPA consulted with Tribal officials early in the process of developing this regulation to provide them meaningful and timely input into its development. EPA directly contacted the facility in question to insure it was appraised of this rulemaking and potential

implications. This facility indicated it was aware of the rulemaking and was participating in meetings with the industry trade association concerning this rulemaking. The facility did not indicate any specific concern, and we are assuming that they have the same concerns as those expresses by the other non-Tribally owned facilities during the development of this rule.

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

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

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

This rule is not a "significant energy action" as defined in Executive Order 13211, (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Further, we have concluded that this rule is not likely to have any adverse energy effects. This rule will result in the addition of control equipment and monitoring systems for existing and new sources.

The final rule under subpart F will result in the addition of alkaline scrubbers to certain kilns to reduce SO_2 emissions. We estimate the additional electrical demand to be 6.9 million kWhr per year by the end of the 2013.

We estimate that under the final subpart LLL rule the additional electrical demand will be 1 billion kWhr per year and the natural gas use will be 1.2 million MMBtu for existing sources. At the end of 2013, electrical demand from new sources will be 180 million kWhr per year.

I. National Technology Transfer and Advancement Act

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

Consistent with the NTTAA, EPA conducted searches through the Enhanced NSSN Database managed by the American National Standards Institute (ANSI). We also contacted VCS organizations, and accessed and searched their databases.

1. Subpart F

This final rulemaking involves technical standards. EPA has decided to use the VCS ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses," for its manual methods of measuring the content of the exhaust gas. These parts of ASME PTC 19.10–1981 are acceptable alternatives to EPA Methods 3B, 6, 6A, 7, and 7C. This standard is available from the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016–5990.

While the Agency has identified 12 other VCS as being potentially applicable to this rule, we have decided not to use these VCS in this rulemaking. The use of these VCS would have been impractical because they do not meet the objectives of the standards cited in this rule. *See* the docket for this rule for the reasons for these determinations.

2. Subpart LLL

This final rulemaking involves technical standards. EPA will use ASTM D6348–03, "Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy," as an acceptable alternative to EPA Method 320 providing the following conditions are met:

(1) The test plan preparation and implementation in the Annexes to ASTM D 6348–03, Sections A1 through A8 are mandatory;

(2) In ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be determined for each target analyte (Equation A5.5). In order for the test data to be acceptable for a compound, percent R must be $70 \leq R \leq 130$. If the percent R value does not meet this criterion for a target compound, the test data is not acceptable for that compound and the test must be repeated for that analyte (*i.e.*, the sampling and/or analytical procedure should be adjusted before a retest). The percent R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated percent R value for that compound by using the following equation: Reported Result = Measured Concentration in the Stack × 100 ÷ percent R.

While the Agency has identified eight other VCS as being potentially applicable to this rule, we have decided not to use these VCS in this rulemaking. The use of these VCS would have been impractical because they do not meet the objectives of the standards cited in this rule. *See* the docket for this rule for the reasons for these determinations.

Under 40 CFR 60.13(i) of the NSPS General Provisions and 63.7 (f) of the NESHAP General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in the final rule and amendments.

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

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

EPA has determined that this rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income populations. Additionally, the Agency has reviewed this rule to determine if there was existing disproportionately high and adverse human health or environmental effects on minority or low-income populations that could be mitigated by this rulemaking. An analysis of demographic data showed that the average of populations in close proximity to the sources, and thus most likely to be affected by the sources, were similar in demographic composition to national averages.

In determining the aggregate demographic makeup of the communities near affected sources, EPA

used census data at the block group level to identify demographics of the populations considered to be living near affected sources, such that they have notable exposures to current emissions from these sources. In this approach, EPA reviewed the distributions of different socio-demographic groups in the locations of the expected emission reductions from this rule. The review identified those census block groups within a circular distance of a half, 3, and 5 miles of affected sources and determined the demographic and socio-economic composition (*e.g.*, race, income, education, *etc.*) of these census block groups. The radius of 3 miles (or approximately 5 kilometers) has been used in other demographic analyses focused on areas around potential sources.[57] [58] [59] [60] EPA's demographic analysis has shown that these areas in aggregate have similar proportions of American Indians, African-Americans, Hispanics, Whites, and "Other and Multi-racial" populations, and similar proportions of families with incomes below the poverty level as the national average.[61]

EPA defines "Environmental Justice" to include meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and polices.

This final action establishes national emission standards for new and existing cement kilns. EPA estimates that there are 100 facilities covered by this rule. The final rule will reduce emissions of all the listed hazardous air pollutants emitted from this source category. This includes emissions of cadmium, HCl, lead, Hg, and organic hazardous air pollutants. Adverse health effects from these pollutants include cancer, irritation of the lungs, skin, and mucus membranes, effects on the central nervous system, and damage to the kidneys, and acute health disorders. The rule will also result in substantial reductions of criteria pollutants such as NO_X, PM (total and fine), and SO_2. SO_2 and NO_2 are precursors for the formation of $PM_{2.5}$ and ozone. Reducing these emissions will reduce ozone and $PM_{2.5}$ formation and associated health effects, such as adult premature mortality, chronic and acute bronchitis, asthma, and other respiratory and cardiovascular diseases. (Please refer to the RIA contained in the docket for this rulemaking.)

K. 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. 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 a "major rule" as defined by 5 U.S.C. 804(2). These final rules will be effective November 8, 2010.

List of Subjects

40 CFR Part 60

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

40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: August 6, 2010.

Lisa P. Jackson,

Administrator.

■ For the reasons stated in the preamble, title 40, chapter I, of the Code of Federal Regulations is amended as follows:

PART 60—[AMENDED]

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

Authority: 23 U.S.C. 101; 42 U.S.C. 7401–7671q.

Subpart A—[Amended]

■ 2. Section 60.17 is amended by revising paragraph (h)(4) to read as follows:

§ 60.17 Incorporations by reference.

* * * * *

(h) * * *

(4) ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], IBR approved for § 60.56c(b)(4) of subpart Ec, § 60.63(f)(2) and (f)(4) of subpart F, § 60.106(e)(2) of subpart J, §§ 60.104a(d)(3), (d)(5), (d)(6), (h)(3), (h)(4), (h)(5), (i)(3), (i)(4), (i)(5), (j)(3), and (j)(4), 60.105a(d)(4), (f)(2), (f)(4), (g)(2), and (g)(4), 60.106a(a)(1)(iii), (a)(2)(iii), (a)(2)(v), (a)(2)(viii), (a)(3)(ii), and (a)(3)(v), and 60.107a(a)(1)(ii), (a)(1)(iv), (a)(2)(ii), (c)(2), (c)(4), and (d)(2) of subpart Ja, tables 1 and 3 of subpart EEEE, tables 2 and 4 of subpart FFFF, table 2 of subpart JJJJ, and § 60.4415(a)(2) and (a)(3) of subpart KKKK of this part.

* * * * *

Subpart F—[Amended]

■ 3. Section 60.62 is revised to read as follows:

§ 60.62 Standards.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, you may not discharge into the atmosphere from any kiln any gases which:

(1) Contain particulate matter (PM) in excess of:

(i) 0.30 pound per ton of feed (dry basis) to the kiln if construction, reconstruction, or modification of the kiln commences after August 17, 1971 but on or before June 16, 2008.

(ii) 0.01 pound per ton of clinker on a 30-operating day rolling average if construction, reconstruction, or modification of the kiln commenced after June 16, 2008. An operating day includes all valid data obtained in any daily 24-hour period during which the kiln operates and excludes any measurements made during the daily 24-hour period when the kiln was not operating.

(2) Exhibit greater than 20 percent opacity, except that this opacity limit does not apply to any kiln subject to a PM limit in paragraph (a)(1) of this section that uses a PM continuous emissions monitoring system (CEMS).

(3) Exceed 1.50 pounds of nitrogen oxide (NO_X) per ton of clinker on a 30-operating day rolling average if construction, reconstruction, or modification of the kiln commences

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

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

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

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

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

after June 16, 2008, except this limit does not apply to any alkali bypass installed on the kiln. An operating day includes all valid data obtained in any daily 24-hour period during which the kiln operates and excludes any measurements made during the daily 24-hour period when the kiln was not operating.

(4) Exceed 0.4 pounds of sulfur dioxide (SO_2) per ton of clinker on a 30-operating day rolling average if construction, reconstruction, or modification commences after June 16, 2008, unless you are demonstrating a 90 percent SO_2 emissions reduction measured across the SO_2 control device. An operating day includes all valid data obtained in any daily 24-hour period during which the kiln operates, and excludes any measurements made during the daily 24-hour period when the kiln was not operating.

(b) On and after the date on which the performance test required to be conducted by § 60.8 is completed, you may not discharge into the atmosphere from any clinker cooler any gases which:

(1) Contain PM in excess of:

(i) 0.10 pound per ton of feed (dry basis) to the kiln if construction, reconstruction, or modification of the clinker cooler commenced after August 17, 1971 but on or before June 16, 2008.

(ii) 0.01 pound per ton of clinker on a 30-operating day rolling average if construction, reconstruction, or modification of the clinker cooler commences after June 16, 2008. An operating day includes all valid data obtained in any daily 24-hour period during which the kiln operates, and excludes any measurements made during the daily 24-hour period when the kiln was not operating.

(2) Exhibit 10 percent opacity, or greater, except that this opacity limit does not apply to any clinker cooler subject to a PM limit in paragraph (b)(1) of this section that uses a PM CEMS.

(3) If the kiln and clinker cooler exhaust are combined for energy efficiency purposes and sent to a single control device, the appropriate kiln PM limit may be adjusted using the procedures in § 63.1343(b) of this chapter.

(4) If the kiln has a separate alkali bypass stack, you must combine the PM emissions from the bypass stack with the PM emissions from the main kiln exhaust to determine total PM emissions.

(c) On and after the date on which the performance test required to be conducted by § 60.8 is completed, you may not discharge into the atmosphere from any affected facility other than the kiln and clinker cooler any gases which exhibit 10 percent opacity, or greater.

(d) If you have an affected source subject to this subpart with a different emission limit or requirement for the same pollutant under another regulation in title 40 of this chapter, you must comply with the most stringent emission limit or requirement and are not subject to the less stringent requirement.

■ 4. Section 60.63 is revised to read as follows:

§ 60.63 Monitoring of operations.

(a) [Reserved]

(b) *Clinker production monitoring requirements.* For any kiln subject to an emissions limitation on PM, NO_X, or SO_2 emissions (lb/ton of clinker), you must:

(1) Determine hourly clinker production by one of two methods:

(i) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates of the amount of clinker produced in tons of mass per hour. The system of measuring hourly clinker production must be maintained within ±5 percent accuracy.

(ii) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates of the amount of feed to the kiln in tons of mass per hour. The system of measuring feed must be maintained within ±5 percent accuracy. Calculate your hourly clinker production rate using a kiln specific feed-to-clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. This ratio should be updated monthly. Note that if this ratio changes at clinker reconciliation, you must use the new ratio going forward, but you do not have to retroactively change clinker production rates previously estimated;

(2) Determine, record, and maintain a record of the accuracy of the system of measuring hourly clinker or feed production before initial use (for new sources) or within 30 days of the effective date of this rule (for existing sources). During each quarter of source operation, you must determine, record, and maintain a record of the ongoing accuracy of the system of measuring hourly clinker or feed production.

(3) Record the daily clinker production rates and kiln feed rates; and

(4) Develop an emissions monitoring plan in accordance with paragraphs (i)(1) through (i)(4) of this section.

(c) You must monitor PM emissions of a kiln or clinker cooler subject to a PM emissions limit in § 60.62(a)(1)(ii) or (b)(1)(ii) according to the applicable requirements below:

(1) Install and operate a PM CEMS in accordance with Performance Specification 11 of appendix B and Procedure 2 of appendix F to part 60 of this chapter. The performance test method and the correlation test method for Performance Specification 11 shall be Method 5 or Method 5i of appendix A to this part. The owner or operator must also develop an emissions monitoring plan in accordance with paragraphs (i)(1) through (i)(4) of this section.

(2) Perform Relative Response Audits annually and Response Correlation Audits every 3 years.

(3) Collect readings at least every 15 minutes in order to calculate the 30-operating day rolling average to determine PM emissions. Calculate the 30-operating day rolling average using equation 1 of this section:

$$\text{30-operating day rolling average} = \frac{1}{n}\sum_{i=1}^{n} PM_{15\ \text{minutes}} \qquad \text{(Eq. 1)}$$

Where:

$PM_{15\ \text{minutes}}$ = PM emissions from a 15-minute period.

n = number of 15 minute periods with valid data over the preceding 30 operating days.

(d) You must install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration by volume of NO_X emissions into the atmosphere for any kiln subject to the NO_X emissions limit in § 60.62(a)(3). If the kiln has an alkali bypass, NO_X emissions from the alkali bypass do not need to be monitored, and NO_X emission monitoring of the kiln exhaust may be done upstream of any comingled alkali bypass gases.

(e) You must install, operate, calibrate, and maintain an instrument for continuously monitoring and

recording the concentration by volume of SO_2 emissions into the atmosphere for any kiln subject to the SO_2 emissions limit in § 60.62(a)(4). If you are complying with the alternative 90 percent SO_2 emissions reduction emission limit, you must also continuously monitor and record the concentration by volume of SO_2 present at the wet scrubber inlet.

(f) You must install, operate, and maintain according to Performance Specification 2 (40 CFR part 60, appendix B) and the requirements in paragraphs (f)(1) through (5) of this section each CEMS required under paragraphs (c), (d) and (e) of this section.

(1) The span value of each NO_X monitor must be set at 125 percent of the maximum estimated hourly potential NO_X emission concentration that translates to the applicable emission limit at full clinker production capacity.

(2) You must conduct performance evaluations of each NO_X monitor according to the requirements in § 60.13(c) and Performance Specification 2 of Appendix B to part 60. The owner or operator must use Methods 7, 7A, 7C, 7D, or 7E of appendix A–4 to part 60 for conducting the relative accuracy evaluations. The method ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see § 60.17) is an acceptable alternative to EPA Method 7 or 7C of Appendix A–4 to part 60.

(3) The span value for the SO_2 monitor must be set at 125 percent of the maximum estimated hourly potential SO_2 emission concentration that translates to the applicable emission limit at full clinker production capacity.

(4) You must conduct performance evaluations of each SO_2 monitor according to the requirements in § 60.13(c) and Performance Specification 2 of Appendix B to part 60. You must use Methods 6, 6A, or 6C of Appendix A–4 to part 60 for conducting the relative accuracy evaluations. The method ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see § 60.17) is an acceptable alternative to EPA Method 6 or 6A of Appendix A–4 to part 60.

(5) You must comply with the quality assurance requirements in Procedure 1 of Appendix F to part 60 for each monitor, including quarterly accuracy determinations for monitors, and daily calibration drift tests.

(g) For each CEMS required under paragraphs (c) through (e) of this section:

(1) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments).

(2) You may not use data recorded during the monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. An owner or operator must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(3) You must meet the requirements of § 60.13(h) when determining the 1-hour averages of emissions data.

(h) You must install, operate, calibrate, and maintain instruments for continuously measuring and recording the pollutant per mass flow rate to the atmosphere for each kiln subject to the PM emissions limits in § 60.62(a)(1)(i) and (ii), the NO_X emissions limit in § 60.62(a)(3), or the SO_2 emissions limit in § 60.62(a)(4) according to the requirements in paragraphs (h)(1) through (10) of this section.

(1) The owner or operator must install each sensor of the flow rate monitoring system in a location that provides representative measurement of the exhaust gas flow rate at the sampling location of the NO_X, SO_2 or PM CEMS, taking into account the manufacturer's recommendations. The flow rate sensor is that portion of the system that senses the volumetric flow rate and generates an output proportional to that flow rate.

(2) The flow rate monitoring system must be designed to measure the exhaust gas flow rate over a range that extends from a value of at least 20 percent less than the lowest expected exhaust flow rate to a value of at least 20 percent greater than the highest expected exhaust gas flow rate.

(3) The flow rate monitoring system must have a minimum accuracy of 5 percent of the flow rate.

(4) The flow rate monitoring system must be equipped with a data acquisition and recording system that is capable of recording values over the entire range specified in paragraph (h)(2) of this section.

(5) The signal conditioner, wiring, power supply, and data acquisition and recording system for the flow rate monitoring system must be compatible with the output signal of the flow rate sensors used in the monitoring system.

(6) The flow rate monitoring system must be designed to complete a minimum of one cycle of operation for each successive 15-minute period.

(7) The flow rate sensor must have provisions to determine the daily zero and upscale calibration drift (CD) (*see* sections 3.1 and 8.3 of Performance Specification 2 in Appendix B to part 60 of this chapter for a discussion of CD).

(i) Conduct the CD tests at two reference signal levels, zero (*e.g.*, 0 to 20 percent of span) and upscale (*e.g.*, 50 to 70 percent of span).

(ii) The absolute value of the difference between the flow monitor response and the reference signal must be equal to or less than 3 percent of the flow monitor span.

(8) You must perform an initial relative accuracy test of the flow rate monitoring system according to section 8.2 of Performance Specification 6 of Appendix B to part 60 of the chapter, with the exceptions noted in paragraphs (h)(8)(i) and (ii).

(i) The relative accuracy test is to evaluate the flow rate monitoring system alone rather than a continuous emission rate monitoring system.

(ii) The relative accuracy of the flow rate monitoring system shall be no greater than 10 percent of the mean value of the reference method data.

(9) You must verify the accuracy of the flow rate monitoring system at least once per year by repeating the relative accuracy test specified in paragraph (h)(8).

(10) You must operate the flow rate monitoring system and record data during all periods of operation of the affected facility including periods of startup, shutdown, and malfunction, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments.

(i) *Development and Submittal (Upon Request) of Monitoring Plans.* If you demonstrate compliance with any applicable emission limit through performance stack testing or other

emissions monitoring, you must develop a site-specific monitoring plan according to the requirements in paragraphs (i)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under paragraph (h) of this section and § 63.8(f). If you use a BLDS, you must also meet the requirements specified in paragraph § 63.1350(m)(10) of this chapter.

(1) For each continuous monitoring system (CMS) required in this section, you must develop, and submit to the permitting authority for approval upon request, a site-specific monitoring plan that addresses paragraphs (i)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before the initial performance evaluation of your CMS.

(i) Installation of the CEMS 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 (i)(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.

■ 5. Section 60.64 is revised to read as follows:

§ 60.64 Test methods and procedures

(a) In conducting the performance tests required in § 60.8, you must use reference methods and procedures and the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) Compliance with the PM standards in § 60.62 is determined using the procedures specified in § 60.63.

(1) The PM emission rate is calculated using Equation 2 of this section:

$$E = (C_S Q_S)/(PK) \qquad \text{(Eq. 2)}$$

Where:

E = emission rate of particulate matter, lb/ton of kiln feed;

C_s = concentration of particulate matter, gr/scf;

Q_s = volumetric flow rate of effluent gas, where C_s and Q_s are on the same basis (either wet or dry), dscf/hr;

P = total kiln feed (dry basis) rate, ton/hr. For kilns constructed, modified or reconstructed on or after June 16, 2008, p = total kiln clinker production rate; and

K = conversion factor, 7000 gr/lb.

(2) Suitable methods shall be used to determine the kiln feed rate (P), except fuels.

(3) Method 9 and the procedures in § 60.11 must be used to determine opacity.

(4) Any sources other than kilns (including associated alkali bypass and cooler) subject to the 10 percent opacity limit must follow the appropriate monitoring procedures in § 63.1350(f), (m)(1) through (4), (m)(10) through (11), (o), and (p) of this chapter.

(5) If your kiln is not equipped with a PM CEMS meeting the requirements of Performance Specification 11 of Appendix B to part 60, and the kiln (including any associated alkali bypass and clinker cooler) was constructed, modified or reconstructed on or after June 16, 2008, you must conduct a performance test every 5 years following the initial performance test. Kilns (including any associated alkali bypass and clinker cooler) constructed, reconstructed, or modified after August 17, 1971 but on or before June 16, 2008 must conduct a performance test every 5 years if not equipped with a PM CEMS meeting the requirements of Performance Specification 11 of Appendix B to part 60.

(c) You must calculate and record the 30-operating day rolling emission rate of NO_X and SO_2 as the total of all hourly emissions data for a cement kiln in the preceding 30 days, divided by the total tons of clinker produced in that kiln during the same 30-operating day period using Equation 3 of this section:

$$E = (C_S Q_S)/(PK) \qquad \text{Eq. 3}$$

Where:

E = emission rate of NO_X or SO_2, lb/ton of clinker production;

C_s = concentration of NO_X or SO_2, gr/scf;

Q_s = volumetric flow rate of effluent gas, where C_s and Q_s are on the same basis (either wet or dry), scf/hr;

P = total kiln clinker production rate, ton/hr; and

K = conversion factor, 7000 gr/lb.

(d) As of December 31, 2011 and within 60 days after the date of completing each performance evaluation or test, as defined in § 63.2, conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and performance test data, except opacity data, to EPA by successfully submitting the data electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (*see http://www.epa.gov/ttn/chief/ert/ert_tool.html/*).

■ 6. Section 60.66 is revised to read as follows:

§ 60.66 Delegation of authority.

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or Tribal agency. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or Tribal agency within your State.

(b) In delegating implementation and enforcement authority to a State, local, or Tribal agency, the approval authorities contained paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S EPA and are not transferred to the State, local, or Tribal agency.

(1) Approval of an alternative to any non-opacity emissions standard.

(2) Approval of a major change to test methods under § 60.8(b). A "major change to test method" is defined in 40 CFR 63.90.

(3) Approval of a major change to monitoring under § 60.13(i). A "major change to monitoring" is defined in 40 CFR 63.90.

(4) Approval of a major change to recordkeeping/reporting under § 60.7(b) through (f). A "major change to recordkeeping/reporting" is defined in 40 CFR 63.90.

Appendix B—[Amended]

■ 7. Appendix B to 40 CFR Part 60 is amended as follows:

■ a. Revise Performance Specification 12A.

■ b. Add Performance Specification 12B.

Appendix B to Part 60—Performance Specifications

* * * * *

Performance Specification 12A—Specifications and Test Procedures for Total Vapor Phase Mercury Continuous Emission Monitoring Systems in Stationary Sources

1.0 Scope and Application

1.1 Analyte. The analyte measured by these procedures and specifications is total vapor phase mercury (Hg) in the flue gas, which represents the sum of elemental Hg (Hg^0, CAS Number 7439–97–6) and oxidized forms of gaseous Hg (Hg^{+2}), in concentration units of micrograms per cubic meter ($\mu g/m^3$).

1.2 Applicability.

1.2.1 This specification is for evaluating the acceptability of total vapor phase Hg continuous emission monitoring systems (CEMS) installed at stationary sources at the time of or soon after installation and whenever specified in the regulations. The Hg CEMS must be capable of measuring the total concentration in $\mu g/m^3$ of vapor phase Hg, regardless of speciation, and recording that concentration at standard conditions on a wet or dry basis. These specifications do not address measurement of particle bound Hg.

1.2.2 This specification is not designed to evaluate an installed CEMS's performance over an extended period of time nor does it identify specific calibration techniques and auxiliary procedures to assess the CEMS's performance. The source owner or operator, however, is responsible to calibrate, maintain, and operate the CEMS properly. The Administrator may require, under section 114 of the Clean Air Act, the operator to conduct CEMS performance evaluations at other times besides the initial performance evaluation test. *See* §§ 60.13(c) and 63.8(e)(1).

1.2.3 Mercury monitoring approaches not entirely suited to these specifications may be approvable under the alternative monitoring or alternative test method provisions of § 60.13(i) and § 63.8(f) or § 60.8(b)(3) and § 63.7(f), respectively.

2.0 Summary of Performance Specification

Procedures for determining CEMS relative accuracy, linearity, and calibration drift are outlined. CEMS installation and measurement location specifications, data reduction procedures, and performance criteria are included.

3.0 Definitions

3.1 *Continuous Emission Monitoring System (CEMS)* means the total equipment required to measure a pollutant concentration. The system generally consists of the following three major subsystems:

3.2 *Sample Interface* means that portion of the CEMS used for one or more of the following: sample acquisition, sample transport, sample conditioning, and protection of the monitor from the effects of the stack effluent.

3.3 *Hg Analyzer* means that portion of the Hg CEMS that measures the total vapor phase Hg mass concentration and generates a proportional output.

3.4 *Data Recorder* means that portion of the CEMS that provides a permanent electronic record of the analyzer output. The data recorder may provide automatic data reduction and CEMS control capabilities.

3.5 *Span Value* means the measurement range as specified in the applicable regulation or other requirement. If the span is not specified in the applicable regulation or other requirement, then it must be a value approximately equivalent to two times the emission standard. Unless otherwise specified, the span value may be rounded up to the nearest multiple of 10.

3.6 *Measurement Error Test* means a test procedure in which the accuracy of the concentrations measured by a CEMS at three or more points over its measurement range is evaluated using reference gases. For Hg CEMS, elemental and oxidized Hg (Hg^0 and mercuric chloride, $HgCl_2$) gas standards of known concentration are used for this procedure.

3.7 *Measurement Error (ME)* means the absolute value of the difference between the concentration indicated by the CEMS and the known concentration of a reference gas, expressed as a percentage of the span value, when the entire CEMS, including the sampling interface, is challenged.

3.8 *Calibration Drift (CD)* means the absolute value of the difference between the CEMS output response and either an upscale Hg reference gas or a zero-level Hg reference gas, expressed as a percentage of the span value, when the entire CEMS, including the sampling interface, is challenged after a stated period of operation during which no unscheduled maintenance or repair took place.

3.9 *Relative Accuracy Test Procedure* means a test procedure consisting of at least nine test runs, in which the accuracy of the concentrations measured by a CEMS is evaluated by comparison against concurrent measurements made with a reference method (RM). Relative accuracy tests repeated on a regular, on-going basis are referred to as relative accuracy test audits or RATAs.

3.10 *Relative Accuracy (RA)* means the absolute mean difference between the pollutant concentrations determined by the CEMS and the values determined by the RM plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the RM tests. Alternatively, for sources with an average RM concentration less than 5.0 micrograms per standard cubic meter ($\mu g/scm$), the RA may be expressed as the absolute value of the difference between the mean CEMS and RM values.

4.0 Interferences [Reserved]

5.0 Safety

The procedures required under this performance specification may involve hazardous materials, operations, and equipment. This performance specification may not address all of the safety problems associated with these procedures. It is the responsibility of the user to establish appropriate safety and health practices and determine the applicable regulatory limitations prior to performing these procedures. The CEMS user's manual and materials recommended by the RM should be consulted for specific precautions to be taken.

6.0 Equipment and Supplies

6.1 CEMS Equipment Specifications.

6.1.1 Data Recorder Scale. The Hg CEMS data recorder output range must include the full range of expected Hg concentration values in the gas stream to be sampled including zero and the span value.

6.1.2 The Hg CEMS design should also provide for the determination of CD and ME at a zero value (zero to 20 percent of the span value) and at upscale values (between 50 and 100 percent of the span value). The Hg CEMS must be constructed to permit the introduction of known concentrations of Hg and $HgCl_2$ separately into the sampling system of the CEMS immediately preceding the sample extraction filtration system such that the entire CEMS can be challenged.

6.2 Reference Gas Delivery System. The reference gas delivery system must be designed so that the flowrate exceeds the sampling system flow requirements of the CEMS and that the gas is delivered to the CEMS at atmospheric pressure.

6.3 Other equipment and supplies, as needed by the reference method used for the Relative Accuracy Test Procedure. *See* Section 8.6.2.

7.0 Reagents and Standards

7.1 Reference Gases. Reference gas standards are required for both elemental and oxidized Hg (Hg and mercuric chloride, $HgCl_2$). The use of National Institute of Standards and Technology (NIST)-traceable standards and reagents is required. The following gas concentrations are required.

7.1.1 Zero-level. 0 to 20 percent of the span value.

7.1.2 Mid-level. 50 to 60 percent of the span value.

7.1.3 High-level. 80 to 100 percent of the span value.

7.2 Reference gas standards may also be required for the reference methods. *See* Section 8.6.2.

8.0 Performance Specification Test Procedure

8.1 Installation and Measurement Location Specifications.

8.1.1 CEMS Installation. Install the CEMS at an accessible location downstream of all pollution control equipment. Place the probe outlet or other sampling interface at a point or location in the stack (or vent) representative of the stack gas concentration of Hg. Since the Hg CEMS sample system normally extracts gas from a single point in the stack, a location that has been shown to be free of stratification for Hg or, alternatively, SO_2 is recommended. If the cause of failure to meet the RA test requirement is determined to be the measurement location and a satisfactory correction technique cannot be established, the Administrator may require the CEMS to be relocated. Measurement locations and points or paths that are most likely to provide data that will meet the RA requirements are described in Sections 8.1.2 and 8.1.3 below.

8.1.2 Measurement Location. The measurement location should be (1) at least two equivalent diameters downstream of the nearest control device, point of pollutant generation or other point at which a change of pollutant concentration may occur, and (2) at least half an equivalent diameter upstream

from the effluent exhaust. The equivalent duct diameter is calculated according to Method 1 in appendix A–1 to this part.

8.1.3 Hg CEMS Sample Extraction Point. Use a sample extraction point either (1) no less than 1.0 meter from the stack or duct wall, or (2) within the centroidal velocity traverse area of the stack or duct cross section. This does not apply to cross-stack, in-situ measurement systems.

8.2 Measurement Error (ME) Test Procedure. Sequentially inject each of at least three elemental Hg reference gases (zero, mid-level, and high level, as defined in Section 7.1), three times each for a total of nine injections. Inject the gases in such a manner that the entire CEMS is challenged. Do not inject the same gas concentration twice in succession. At each reference gas concentration, determine the average of the three CEMS responses and subtract the average response from the reference gas value. Calculate the measurement error (ME) using Equation 12–1 by expressing the absolute value of the difference between the average CEMS response (A) and the reference gas value (R) as a percentage of the span (*see* example data sheet in Figure 12A–1). For each elemental Hg reference gas, the absolute value of the difference between the CEMS response and the reference value must not exceed 5 percent of the span value. If this specification is not met, identify and correct the problem before proceeding. Repeat the measurement error test procedure using oxidized Hg reference gases. For each oxidized Hg reference gas, the absolute value of the difference between the CEMS response and the reference value shall not exceed 10 percent of the span value. If this specification is not met, identify and correct the problem before proceeding.

$$ME = \frac{|R - A|}{Span} x100 \quad \text{(Equation 12A-1)}$$

8.3 Seven-Day Calibration Drift (CD) Test Procedure.

8.3.1 CD Test Period. While the affected facility is operating normally, or as specified in an applicable regulation, determine the magnitude of the CD once each day (at 24-hour intervals, to the extent practicable) for 7 consecutive unit operating days according to the procedures in Sections 8.3.2 and 8.3.3. The 7 consecutive unit operating days need not be 7 consecutive calendar days. Use either Hg^0 or $HgCl_2$ standards for this test.

8.3.2 The purpose of the CD measurement is to verify the ability of the CEMS to conform to the established CEMS response used for determining emission concentrations or emission rates. Therefore, if periodic automatic or manual adjustments are made to the CEMS zero and upscale response settings, conduct the CD test immediately before these adjustments, or conduct it in such a way that the CD can be determined.

8.3.3 Conduct the CD test using the zero gas specified and either the mid-level or high-level gas as specified in Section 7.1. Sequentially introduce the reference gases to the CEMS at the sampling system of the CEMS immediately preceding the sample extraction filtration system. Record the CEMS response (A) for each reference gas and, using Equation 12A–2, subtract the corresponding reference value (R) from the CEMS value, and express the absolute value of the difference as a percentage of the span value (*see also* example data sheet in Figure 12A–2). For each reference gas, the absolute value of the difference between the CEMS response and the reference value must not exceed 5 percent of the span value. If these specifications are not met, identify and correct the problem before proceeding.

$$CD = \frac{|R - A|}{Span} x100 \quad \text{(Equation 12A-2)}$$

8.4 Relative Accuracy (RA) Test Procedure.

8.4.1 RA Test Period. Conduct the RA test according to the procedure given in Sections 8.4.2 through 8.4.6 while the affected facility is operating normally, or as specified in an applicable subpart. The RA test may be conducted during the CD test period.

8.4.2 Reference Methods (RM). Unless otherwise specified in an applicable subpart of the regulations, use Method 29, Method 30A, or Method 30B in appendix A–8 to this part or American Society of Testing and Materials (ASTM) Method D6784–02 (incorporated by reference, *see* § 60.17) as the RM for Hg concentration. For Method 29 and ASTM Method D6784–02 only, the filterable portion of the sample need not be included when making comparisons to the CEMS results. When Method 29, Method 30B, or ASTM D6784–02 is used, conduct the RM test runs with paired or duplicate sampling systems and use the average of the vapor phase Hg concentrations measured by the two trains. When Method 30A is used, paired sampling systems are not required. If the RM and CEMS measure on a different moisture basis, data derived with Method 4 in appendix A–3 to this part must also be obtained during the RA test.

8.4.3 Sampling Strategy for RM Tests. Conduct the RM tests in such a way that they will yield results representative of the emissions from the source and can be compared to the CEMS data. The RM and CEMS locations need not be immediately adjacent. Locate the RM measurement points in accordance with section 8.1.3 of Performance Specification 2 (PS 2) in this appendix. It is preferable to conduct moisture measurements (if needed) and Hg measurements simultaneously, although moisture measurements that are taken within an hour of the Hg measurements may be used to adjust the Hg concentrations to a consistent moisture basis. In order to correlate the CEMS and RM data properly, note the beginning and end of each RM test period for each paired RM run (including the exact time of day) on the CEMS chart recordings or other permanent record of output.

8.4.4 Number and Length of RM Test Runs. Conduct a minimum of nine RM test runs. When Method 29, Method 30B, or ASTM D6784–02 is used, only test runs for which the paired RM trains meet the relative deviation criteria (RD) of this PS must be used in the RA calculations. In addition, for Method 29 and ASTM D6784–02, use a minimum sample time of 2 hours and for Methods 30A and 30B use a minimum sample time of 30 minutes.

Note: More than nine sets of RM test runs may be performed. If this option is chosen, RM test run results may be excluded so long as the total number of RM test run results used to determine the CEMS RA is greater than or equal to nine. However, all data must be reported including the excluded test run data.

8.4.5 Correlation of RM and CEMS Data. Correlate the CEMS and the RM test data as to the time and duration by first determining from the CEMS final output (the one used for reporting) the integrated average pollutant concentration for each RM test period. Consider system response time, if important, and confirm that the results are on a consistent moisture basis with the RM test. Then, compare each integrated CEMS value against the corresponding RM value. When Method 29, Method 30B, or ASTM D6784–02 is used, compare each CEMS value against the corresponding average of the paired RM values.

8.4.6 Paired RM Outliers.

8.4.6.1 When Method 29, Method 30B, or ASTM D6784–02 is used, outliers are identified through the determination of relative deviation (RD) of the paired RM tests. Data that do not meet the RD criteria must be flagged as a data quality problem and may not be used in the calculation of RA. The primary reason for performing paired RM sampling is to ensure the quality of the RM data. The percent RD of paired data is the parameter used to quantify data quality. Determine RD for paired data points as follows:

$$RD = \frac{|C_a - C_b|}{C_a + C_b} x100 \quad \text{(Equation 12A-3)}$$

Where:

C_a and C_b are the Hg concentration values determined from the paired samples.

8.4.6.2 The minimum performance criteria for RM Hg data is that RD for any data pair must be ≤ 10 percent as long as the mean Hg concentration is greater than 1.0 μg/m³. If the mean Hg concentration is less than or equal to 1.0 μg/m³, the RD must be ≤ 20 percent or ≤ 0.2 μg/m³ absolute difference. Pairs of RM data exceeding these RD criteria should be eliminated from the data set used to develop a Hg CEMS correlation or to assess CEMS RA.

8.4.7 Calculate the mean difference between the RM and CEMS values in the units of micrograms per cubic meter (μg/m³), the standard deviation, the confidence coefficient, and the RA according to the procedures in Section 12.0.

8.5 Reporting. At a minimum (check with the appropriate EPA Regional Office, State or local Agency for additional requirements, if any), summarize in tabular form the results of the CD tests, the linearity tests, and the RA test or alternative RA procedure, as appropriate. Include all data sheets, calculations, charts (records of CEMS responses), reference gas concentration certifications, and any other information necessary to confirm that the CEMS meets the performance criteria.

9.0 Quality Control [Reserved]

10.0 Calibration and Standardization [Reserved]

11.0 Analytical Procedure

For Method 30A, sample collection and analysis are concurrent. For the other RM, post-run sample analyses are performed. Refer to the RM employed for specific analytical procedures.

12.0 Calculations and Data Analysis

Calculate and summarize the RA test results on a data sheet similar to Figure 12A–3.

12.1 Consistent Basis. All data from the RM and CEMS must be compared in units of micrograms per standard cubic meter (µg/scm), on a consistent and identified moisture basis. The values must be standardized to 20°C, 760 mm Hg.

12.1.1 Moisture Correction (as applicable). If the RM and CEMS measure Hg on a different moisture basis, they will need to be corrected to a consistent basis. Use Equation 12A–4a to correct data from a wet basis to a dry basis.

$$Concentration_{(dry)} = \frac{Concentration_{(wet)}}{(1 - B_{ws})} \qquad \text{(Equation 12A-4a)}$$

Use Equation 12A–4b to correct data from a dry basis to a wet basis.

$$Concentration_{(wet)} = Concentration_{(dry)} \times (1 - B_{ws}) \qquad \text{(Equation 12A-4b)}$$

Where:

B_{ws} is the moisture content of the flue gas from Method 4, expressed as a decimal fraction (*e.g.*, for 8.0 percent H_2O, B_{ws}= 0.08).

12.2 Arithmetic Mean. Calculate $\bar{d}$, the arithmetic mean of the differences (d_i) of a data set as follows:

$$\bar{d} = \frac{1}{n}\sum_{i=1}^{n} d_i \qquad \text{(Equation 12A-5)}$$

Where:

n = Number of data points.

12.3 Standard Deviation. Calculate the standard deviation, S_d, as follows:

$$S_d = \left[\frac{\sum_{i=1}^{n} d_i^2 - \frac{\left[\sum_{i=1}^{n} d_i\right]^2}{n}}{n-1} \right]^{\frac{1}{2}} \qquad \text{(Equation 12A-6)}$$

Where:

$\sum_{i=1}^{n} d_i$ = Algebraic sum of the individual differences d_i.

12.3 Confidence Coefficient (CC). Calculate the 2.5 percent error confidence coefficient (one-tailed), CC, as follows:

$$CC = t_{0.975}\frac{S_d}{\sqrt{n}} \qquad \text{(Equation 12A-7)}$$

12.4 Relative Accuracy. Calculate the RA of a set of data as follows:

$$RA = \frac{\left|\left|\bar{d}\right| + \left|CC\right|\right|}{\overline{RM}} x\ 100 \qquad \text{(Equation 12A-8)}$$

Where:

$|\bar{d}|$ = Absolute value of the mean of the differences (from Equation 12A–5)

$|CC|$ = Absolute value of the confidence coefficient (from Equation 12A–7)

$\overline{RM}$ = Average reference method value

13.0 Method Performance

13.1 Measurement Error (ME). For Hg^0, the ME must not exceed 5 percent of the span value at the zero-, mid-, and high-level reference gas concentrations. For $HgCl_2$, the ME must not exceed 10 percent of the span value at the zero-, mid-, and high-level reference gas concentrations.

13.2 Calibration Drift (CD). The CD must not exceed 5 percent of the span value on any of the 7 days of the CD test.

13.3 Relative Accuracy (RA). The RA of the CEMS must be no greater than 20 percent of the mean value of the RM test data in terms of units of µg/scm. Alternatively, if the mean RM is less than 5.0 µg/scm, the results are acceptable if the absolute value of the difference between the mean RM and CEMS values does not exceed 1.0 µg/scm.

14.0 Pollution Prevention [Reserved]

15.0 Waste Management [Reserved]

16.0 Alternative Procedures [Reserved]

17.0 Bibliography

17.1 40 CFR part 60, appendix B, "Performance Specification 2—Specifications and Test Procedures for SO_2 and NO_x Continuous Emission Monitoring Systems in Stationary Sources."

17.2 40 CFR part 60, appendix A, "Method 29—Determination of Metals Emissions from Stationary Sources."

17.3 40 CFR part 60, appendix A, "Method 30A—Determination of Total Vapor Phase Mercury Emissions From Stationary Sources (Instrumental Analyzer Procedure).

17.4 40 CFR part 60, appendix A, "Method 30B—Determination of Total Vapor Phase Mercury Emissions From Coal-Fired Combustion Sources Using Carbon Sorbent Traps."

17.5 ASTM Method 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)."

18.0 Tables and Figures

TABLE 12A–1—T-VALUES

n[a]	$t_{0.975}$	n[a]	$t_{0.975}$	n[a]	$t_{0.975}$
2	12.706	7	2.447	12	2.201
3	4.303	8	2.365	13	2.179
4	3.182	9	2.306	14	2.160
5	2.776	10	2.262	15	2.145
6	2.571	11	2.228	16	2.131

[a] The values in this table are already corrected for n–1 degrees of freedom. Use n equal to the number of individual values.

FIGURE 12A–1—ME DETERMINATION

	Date	Time	Reference gas value (µg/m³)	CEMS measured value (µg/m³)	Absolute difference (µg/m³)	ME (% of span value)
Zero level						
	Average					
Mid level						
	Average					
High level						
	Average					

FIGURE 12A–2—7-DAY CALIBRATION DRIFT DETERMINATION

	Date	Time	Reference gas value (µg/m³)	CEMS measured value (µg/m³)	Absolute difference (µg/m³)	CD (% of span value)
Zero level						

FIGURE 12A–2—7-DAY CALIBRATION DRIFT DETERMINATION—Continued

	Date	Time	Reference gas value (µg/m³)	CEMS measured value (µg/m³)	Absolute difference (µg/m³)	CD (% of span value)
Upscale (Mid or High)						

FIGURE 12A–3—RELATIVE ACCURACY TEST DATA

Run No.	Date	Begin time	End time	RM value (µg/m³)	CEMS value (µg/m³)	Difference (µg/m³)	Run used? (Yes/No)	RD[1]
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
Average Values								

Arithmetic Mean Difference:
Standard Deviation:
Confidence Coefficient:
T-Value:
% Relative Accuracy:
$|(RM)_{avg} - (CEMS)_{avg}|$:

[1] Calculate the RD only if paired samples are taken using RM 30B, RM 29, or ASTM 6784–08. Express RD as a percentage or, for very low RM concentrations (≤ 1.0 µg/m³), as the absolute difference between C_a and C_b.

Performance Specification 12B—Specifications and Test Procedures for Monitoring Total Vapor Phase Mercury Emissions From Stationary Sources Using a Sorbent Trap Monitoring System

1.0 Scope and Application

The purpose of Performance Specification 12B (PS 12B) is to establish performance benchmarks for, and to evaluate the acceptability of, sorbent trap monitoring systems used to monitor total vapor-phase mercury (Hg) emissions in stationary source flue gas streams. These monitoring systems involve continuous repetitive in-stack sampling using paired sorbent media traps with periodic analysis of the time-integrated samples. Persons using PS 12B should have a thorough working knowledge of Methods 1, 2, 3, 4, 5 and 30B in appendices A–1 through A–3 and A–8 to this part.

1.1 Analyte. The analyte measured by these procedures and specifications is total vapor phase Hg in the flue gas, which represents the sum of elemental Hg (Hg^0, CAS Number 7439–97–6) and gaseous forms of oxidized Hg (*i.e.*, Hg^{+2}) in mass concentration units of micrograms per dry standard cubic meter (µg/dscm).

1.2 Applicability

1.2.1 These procedures are only intended for use under relatively low particulate conditions (*e.g.*, monitoring after all pollution control devices). This specification is for evaluating the acceptability of total

vapor phase Hg sorbent trap monitoring systems installed at stationary sources at the time of, or soon after, installation and whenever specified in the regulations. The Hg monitoring system must be capable of measuring the total concentration of vapor phase Hg (regardless of speciation), in units of µg/dscm.

1.2.2 This specification contains routine procedures and specifications designed to evaluate an installed sorbent trap monitoring system's performance over time; Procedure 5 of appendix F to this part contains additional procedures and specifications which may be required for long term operation. In addition, the source owner or operator is responsible to calibrate, maintain, and operate the monitoring system properly. The Administrator may require the owner or operator, under section 114 of the Clean Air Act, to conduct performance evaluations at other times besides the initial test to evaluate the CEMS performance. *See* § 60.13(c) and 63.8(e)(1).

2.0 Principle

Known volumes of flue gas are continuously extracted from a stack or duct through paired, in-stack, pre-spiked sorbent media traps at appropriate nominal flow rates. The sorbent traps in the sampling system are periodically exchanged with new ones, prepared for analysis as needed, and analyzed by any technique that can meet the performance criteria. For quality-assurance purposes, a section of each sorbent trap is spiked with Hg^0 prior to sampling. Following sampling, this section is analyzed separately and a specified minimum percentage of the spike must be recovered. Paired train sampling is required to determine method precision.

3.0 Definitions

3.1 *Sorbent Trap Monitoring System* means the total equipment required for the collection of gaseous Hg samples using paired three-partition sorbent traps.

3.2 *Relative Accuracy Test Procedure* means a test procedure consisting of at least nine runs, in which the accuracy of the total vapor phase Hg concentrations measured by the sorbent trap monitoring system is evaluated by comparison against concurrent measurements made with a reference method (RM). Relative accuracy tests repeated on a regular, on-going basis are referred to as relative accuracy test audits or RATAs.

3.3 *Relative Accuracy (RA)* means the absolute mean difference between the pollutant (Hg) concentrations determined by the sorbent trap monitoring system and the values determined by the reference method (RM) plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the RM tests. Alternatively, for low concentration sources, the RA may be expressed as the absolute value of the difference between the mean sorbent trap monitoring system and RM values.

3.4 *Relative Deviation (RD)* means the absolute difference of the Hg concentration values obtained with a pair of sorbent traps divided by the sum of those concentrations, expressed as a percentage. RD is used to assess the precision of the sorbent trap monitoring system.

3.5 *Spike Recovery* means the mass of Hg recovered from the spiked trap section, expressed as a percentage of the amount spiked. Spike recovery is used to assess sample matrix interference.

4.0 Interferences [Reserved]

5.0 Safety

The procedures required under this performance specification may involve hazardous materials, operations, and equipment. This performance specification may not address all of the safety problems associated with these procedures. It is the responsibility of the user to establish appropriate safety and health practices and determine the applicable regulatory limitations prior to performing these procedures.

6.0 Equipment and Supplies

6.1 Sorbent Trap Monitoring System Equipment Specifications.

6.1.1 Monitoring System. The equipment described in Method 30B in appendix A–8 to this part must be used to continuously sample for Hg emissions, with the substitution of three-section traps in place of two-section traps, as described below. A typical sorbent trap monitoring system is shown in Figure 12B–1.

6.1.2 Three-Section Sorbent Traps. The sorbent media used to collect Hg must be configured in traps with three distinct and identical segments or sections, connected in series, to be separately analyzed. Section 1 is designated for primary capture of gaseous Hg. Section 2 is designated as a backup section for determination of vapor-phase Hg breakthrough. Section 3 is designated for quality assurance/quality control (QA/QC) purposes. Section 3 must be spiked with a known amount of gaseous Hg^0 prior to sampling and later analyzed to determine the spike (and hence sample) recovery efficiency.

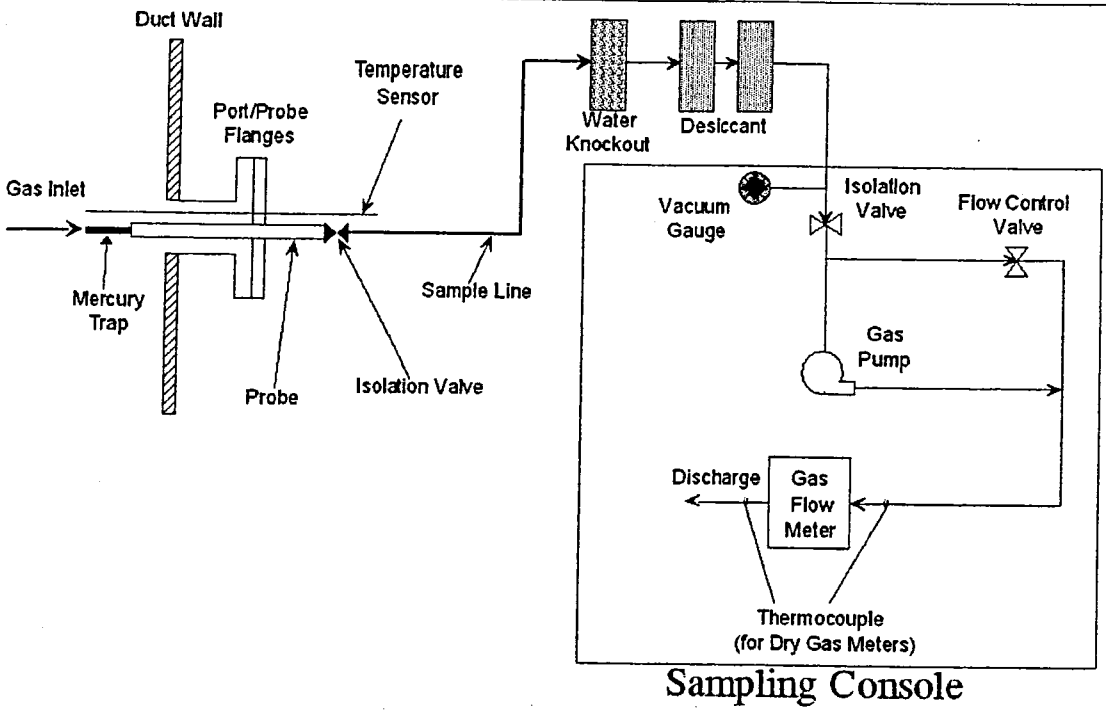


Figure 12B-1. Typical Sorbent Trap Monitoring System (only one trap and associated sampling system is illustrated).

6.1.3 Gaseous Hg^0 Sorbent Trap Spiking System. A known mass of gaseous Hg^0 must be spiked onto section 3 of each sorbent trap prior to sampling. Any approach capable of quantitatively delivering known masses of Hg^0 onto sorbent traps is acceptable. Several technologies or devices are available to meet this objective. Their practicality is a function of Hg mass spike levels. For low levels, NIST-certified or NIST-traceable gas generators or tanks may be suitable, but will likely require long preparation times. A more practical, alternative system, capable of delivering almost any mass required, employs NIST-certified or NIST-traceable Hg salt solutions (*e.g.*, $Hg(NO_3)_2$). With this system, an aliquot of known volume and concentration is added to a reaction vessel containing a reducing agent (*e.g.*, stannous chloride); the Hg salt solution is reduced to Hg^0 and purged onto section 3 of the sorbent trap by using an impinger sparging system.

6.1.4 Sample Analysis Equipment. Any analytical system capable of quantitatively recovering and quantifying total gaseous Hg from sorbent media is acceptable provided that the analysis can meet the performance criteria in Table 12B–1 in Section 9 of this performance specification. Candidate recovery techniques include leaching, digestion, and thermal desorption. Candidate analytical techniques include ultraviolet atomic fluorescence (UV AF); ultraviolet atomic absorption (UV AA), with and without gold trapping; and in-situ X-ray fluorescence (XRF).

7.0 Reagents and Standards

Only NIST-certified or NIST-traceable calibration gas standards and reagents must be used for the tests and procedures required under this performance specification. The sorbent media may be any collection material (*e.g.*, carbon, chemically treated filter, *etc.*) capable of quantitatively capturing and recovering for subsequent analysis, all gaseous forms of Hg in the emissions from the intended application. Selection of the sorbent media must be based on the material's ability to achieve the performance criteria contained in this method as well as the sorbent's vapor phase Hg capture efficiency for the emissions matrix and the expected sampling duration at the test site.

8.0 Performance Specification Test Procedure

8.1 Installation and Measurement Location Specifications.

8.1.1 Selection of Monitoring Site. Sampling site information should be obtained in accordance with Method 1 in appendix A–1 to this part. Place the probe inlet at a point or location in the stack (or vent) downstream of all pollution control equipment and representative of the stack gas concentration of Hg. A location that has been shown to be free of stratification for Hg or, alternatively, SO_2 is recommended. An estimation of the expected stack Hg concentration is required to establish a target sample flow rate, total gas sample volume, and the mass of Hg^0 to be spiked onto section 3 of each sorbent trap.

8.1.2 Pre-sampling Spiking of Sorbent Traps. Based on the estimated Hg concentration in the stack, the target sample rate and the target sampling duration, calculate the expected mass loading for section 1 of each sorbent trap (*see* Section 12.1 of this performance specification). The pre-sampling spike to be added to section 3 of each sorbent trap must be within ± 50 percent of the expected section 1 mass loading. Spike section 3 of each sorbent trap at this level, as described in Section 6.1.3 of this performance specification. For each sorbent trap, keep a record of the mass of Hg^0 added to section 3. This record must include, at a minimum, the identification number of the trap, the date and time of the spike, the name of the analyst performing the procedure, the method of spiking, the mass of Hg^0 added to section 3 of the trap (µg), and the supporting calculations.

8.1.3 Pre-monitoring Leak Check. Perform a leak check with the sorbent traps in place in the sampling system. Draw a vacuum in each sample train. Adjust the vacuum in each sample train to –15″ Hg. Use the gas flow meter to determine leak rate. The leakage rate must not exceed 4 percent of the target

sampling rate. Once the leak check passes this criterion, carefully release the vacuum in the sample train, then seal the sorbent trap inlet until the probe is ready for insertion into the stack or duct.

8.1.4 Determination of Flue Gas Characteristics. Determine or measure the flue gas measurement environment characteristics (gas temperature, static pressure, gas velocity, stack moisture, *etc.*) in order to determine ancillary requirements such as probe heating requirements (if any), sampling rate, proportional sampling conditions, moisture management, *etc.*

8.2 Monitoring.

8.2.1 System Preparation and Initial Data Recording. Remove the plug from the end of each sorbent trap and store each plug in a clean sorbent trap storage container. Remove the stack or duct port cap and insert the probe(s) with the inlet(s) aligned perpendicular to the stack gas flow. Secure the probe(s) and ensure that no leakage occurs between the duct and environment. Record initial data including the sorbent trap ID, start time, starting gas flow meter readings, initial temperatures, set points, and any other appropriate information.

8.2.2 Flow Rate Control. Set the initial sample flow rate at the target value from section 8.1.1 of this performance specification. Then, for every operating hour during the sampling period, record the date and time, the sample flow rate, the gas flow meter reading, the stack temperature (if needed), the flow meter temperatures (if needed), temperatures of heated equipment such as the vacuum lines and the probes (if heated), and the sampling system vacuum readings. Also, record the stack gas flow rate and the ratio of the stack gas flow rate to the sample flow rate. Adjust the sampling flow rate to maintain proportional sampling, *i.e.*, keep the ratio of the stack gas flow rate to sample flow rate within ± 25 percent of the reference ratio from the first hour of the data collection period (*see* section 12.2 of this performance specification). The sample flow rate through a sorbent trap monitoring system during any hour (or portion of an hour) that the unit is not operating must be zero.

8.2.3 Stack Gas Moisture Determination. If data from the sorbent trap monitoring system will be used to calculate Hg mass emissions, determine the stack gas moisture content using a continuous moisture monitoring system or other means acceptable to the Administrator, such as the ones described in § 75.11(b) of this chapter. Alternatively, for combustion of coal, wood, or natural gas in boilers only, a default moisture percentage from § 75.11(b) of this chapter may be used.

8.2.4 Essential Operating Data. Obtain and record any essential operating data for the facility during the test period, *e.g.*, the barometric pressure for correcting the sample volume measured by a dry gas meter to standard conditions. At the end of the data collection period, record the final gas flow meter reading and the final values of all other essential parameters.

8.2.5 Post-monitoring Leak Check. When the monitoring period is completed, turn off the sample pump, remove the probe/sorbent trap from the port and carefully re-plug the end of each sorbent trap. Perform a leak check with the sorbent traps in place, at the maximum vacuum reached during the monitoring period. Use the same general approach described in section 8.1.3 of this performance specification. Record the leakage rate and vacuum. The leakage rate must not exceed 4 percent of the average sampling rate for the monitoring period. Following the leak check, carefully release the vacuum in the sample train.

8.2.6 Sample Recovery. Recover each sampled sorbent trap by removing it from the probe and seal both ends. Wipe any deposited material from the outside of the sorbent trap. Place the sorbent trap into an appropriate sample storage container and store/preserve it in an appropriate manner.

8.2.7 Sample Preservation, Storage, and Transport. While the performance criteria of this approach provide for verification of appropriate sample handling, it is still important that the user consider, determine, and plan for suitable sample preservation, storage, transport, and holding times for these measurements. Therefore, procedures in recognized voluntary consensus standards such as those in ASTM D6911–03 "Standard Guide for Packaging and Shipping Environmental Samples for Laboratory Analysis" should be followed for all samples.

8.2.8 Sample Custody. Proper procedures and documentation for sample chain of custody are critical to ensuring data integrity. Chain of custody procedures in recognized voluntary consensus standards such as those in ASTM D4840–99 "Standard Guide for Sample Chain-of-Custody Procedures" should be followed for all samples (including field samples and blanks).

8.3 Relative Accuracy (RA) Test Procedure

8.3.1 For the initial certification of a sorbent trap monitoring system, a RA Test is required. Follow the basic RA test procedures and calculation methodology described in Sections 8.4.1 through 8.4.7 and 12.4 of PS 12A in this appendix, replacing the term "CEMS" with "sorbent trap monitoring system".

8.3.2 Special Considerations. The type of sorbent material used in the traps must be the same as that used for daily operation of the monitoring system; however, the size of the traps used for the RA test may be smaller than the traps used for daily operation of the system. Spike the third section of each sorbent trap with elemental Hg, as described in section 8.1.2 of this performance specification. Install a new pair of sorbent traps prior to each test run. For each run, the sorbent trap data must be validated according to the quality assurance criteria in Table 12B–1 in Section 9.0, below.

8.3.3 Acceptance Criteria. The RA of the sorbent trap monitoring system must be no greater than 20 percent of the mean value of the RM test data in terms of units of µg/scm. Alternatively, if the RM concentration is less than or equal to 5.0 µg/scm, then the RA results are acceptable if the absolute difference between the means of the RM and sorbent trap monitoring system values does not exceed 1.0 µg/scm.

9.0 Quality Assurance and Quality Control (QA/QC)

Table 12B–1 summarizes the QA/QC performance criteria that are used to validate the Hg emissions data from a sorbent trap monitoring system. Failure to achieve these performance criteria will result in invalidation of Hg emissions data, except where otherwise noted.

TABLE 12B–1—QA/QC CRITERIA FOR SORBENT TRAP MONITORING SYSTEM OPERATION AND CERTIFICATION

QA/QC test or specification	Acceptance criteria	Frequency	Consequences if not met
Pre-monitoring leak check	≤4% of target sampling rate	Prior to monitoring	Monitoring must not commence until the leak check is passed.
Post-monitoring leak check	≤4% of average sampling rate	After monitoring	Invalidate the data from the paired traps or, if certain conditions are met, report adjusted data from a single trap (see Section 12.7.1.3).
Ratio of stack gas flow rate to sample flow rate.	Hourly ratio may not deviate from the reference ratio by more than ± 25%..	Every hour throughout monitoring period.	Invalidate the data from the paired traps or, if certain conditions are met, report adjusted data from a single trap (*see* Section 12.7.1.3).
Sorbent trap section 2 breakthrough.	≤5% of Section 1 Hg mass	Every sample	Invalidate the data from the paired traps or, if certain conditions are met, report adjusted data from a single trap (*see* Section 12.7.1.3).

TABLE 12B–1—QA/QC CRITERIA FOR SORBENT TRAP MONITORING SYSTEM OPERATION AND CERTIFICATION—Continued

QA/QC test or specification	Acceptance criteria	Frequency	Consequences if not met
Paired sorbent trap agreement	≤10% Relative Deviation (RD) if the average concentration is > 1.0 μg/m³. ≤20% RD if the average concentration is ≤ 1.0 μg/m³. Results also acceptable if absolute difference between concentrations from paired traps is ≤ 0.03 μg/m³.	Every sample	Either invalidate the data from the paired traps or report the results from the trap with the higher Hg concentration.
Spike Recovery Study	Average recovery between 85% and 115% for each of the 3 spike concentration levels.	Prior to analyzing field samples and prior to use of new sorbent media.	Field samples must not be analyzed until the percent recovery criteria has been met.
Multipoint analyzer calibration	Each analyzer reading within ± 10% of true value and $r^2 \geq 0.99$.	On the day of analysis, before analyzing any samples.	Recalibrate until successful
Analysis of independent calibration standard..	Within ± 10% of true value	Following daily calibration, prior to analyzing field samples.	Recalibrate and repeat independent standard analysis until successful.
Spike recovery from section 3 of both sorbent traps.	75–125% of spike amount	Every sample	Invalidate the data from the paired traps or, if certain conditions are met, report adjusted data from a single trap (*see* Section 12.7.1.3).
Relative Accuracy	RA ≤20.0% of RM mean value; or if RM mean value ≤5.0 μg/scm, absolute difference between RM and sorbent trap monitoring system mean values ≤1.0 μg/scm.	RA specification must be met for initial certification.	Data from the system are invalid until a RA test is passed.
Gas flow meter calibration	An initial calibration factor (Y) has been determined at 3 settings; for mass flow meters, initial calibration with stack gas has been performed. For subsequent calibrations, Y within ± 5% of average value from the most recent 3-point calibration.	At 3 settings prior to initial use and at least quarterly at one setting thereafter.	Recalibrate meter at 3 settings to determine a new value of Y.
Temperature sensor calibration	Absolute temperature measured by sensor within ± 1.5% of a reference sensor.	Prior to initial use and at least quarterly thereafter.	Recalibrate; sensor may not be used until specification is met.
Barometer calibration	Absolute pressure measured by instrument within ± 10 mm Hg of reading with a NIST-traceable barometer.	Prior to initial use and at least quarterly thereafter.	Recalibrate; instrument may not be used until specification is met.

10.0 Calibration and Standardization

10.1 Gaseous and Liquid Standards. Only NIST certified or NIST-traceable calibration standards (*i.e.*, calibration gases, solutions, *etc.*) must be used for the spiking and analytical procedures in this performance specification.

10.2 Gas Flow Meter Calibration. The manufacturer or supplier of the gas flow meter should perform all necessary set-up, testing, programming, *etc.*, and should provide the end user with any necessary instructions, to ensure that the meter will give an accurate readout of dry gas volume in standard cubic meters for the particular field application.

10.2.1 Initial Calibration. Prior to its initial use, a calibration of the flow meter must be performed. The initial calibration may be done by the manufacturer, by the equipment supplier, or by the end user. If the flow meter is volumetric in nature (*e.g.*, a dry gas meter), the manufacturer, equipment supplier, or end user may perform a direct volumetric calibration using any gas. For a mass flow meter, the manufacturer, equipment supplier, or end user may calibrate the meter using a bottled gas mixture containing 12 ± 0.5% CO_2, 7 ± 0.5% O_2, and balance N_2, or these same gases in proportions more representative of the expected stack gas composition. Mass flow meters may also be initially calibrated on-site, using actual stack gas.

10.2.1.1 Initial Calibration Procedures. Determine an average calibration factor (Y) for the gas flow meter, by calibrating it at three sample flow rate settings covering the range of sample flow rates at which the sorbent trap monitoring system typically operates. Either the procedures in section 10.3.1 of Method 5 in appendix A–3 to this part or the procedures in section 16 of Method 5 in appendix A–3 to this part may be followed. If a dry gas meter is being calibrated, use at least five revolutions of the meter at each flow rate.

10.2.1.2 Alternative Initial Calibration Procedures. Alternatively, the initial calibration of the gas flow meter may be performed using a reference gas flow meter (RGFM). The RGFM may be either: (1) A wet test meter calibrated according to section 10.3.1 of Method 5 in appendix A–3 to this part; (2) A gas flow metering device calibrated at multiple flow rates using the procedures in section 16 of Method 5 in appendix A–3 to this part; or (3) A NIST-traceable calibration device capable of measuring volumetric flow to an accuracy of 1 percent. To calibrate the gas flow meter using the RGFM, proceed as follows: While the sorbent trap monitoring system is sampling the actual stack gas or a compressed gas mixture that simulates the stack gas composition (as applicable), connect the RGFM to the discharge of the system. Care should be taken to minimize the dead volume between the sample flow meter being tested and the RGFM. Concurrently measure dry gas volume with the RGFM and the flow meter being calibrated for a minimum of 10 minutes at each of three flow rates covering the typical range of operation of the sorbent trap monitoring system. For each 10-minute (or longer) data collection period, record the total sample volume, in units of dry standard cubic meters (dscm),

measured by the RGFM and the gas flow meter being tested.

10.2.1.3 Initial Calibration Factor. Calculate an individual calibration factor Yi at each tested flow rate from section 10.2.1.1 or 10.2.1.2 of this performance specification (as applicable), by taking the ratio of the reference sample volume to the sample volume recorded by the gas flow meter. Average the three Yi values, to determine Y, the calibration factor for the flow meter. Each of the three individual values of Yi must be within ±0.02 of Y. Except as otherwise provided in sections 10.2.1.4 and 10.2.1.5 of this performance specification, use the average Y value from the three level calibration to adjust all subsequent gas volume measurements made with the gas flow meter.

10.2.2 Initial On-Site Calibration Check. For a mass flow meter that was initially calibrated using a compressed gas mixture, an on-site calibration check must be performed before using the flow meter to provide data. While sampling stack gas, check the calibration of the flow meter at one intermediate flow rate typical of normal operation of the monitoring system. Follow the basic procedures in section 10.2.1.1 or 10.2.1.2 of this performance specification. If the onsite calibration check shows that the value of Yi, the calibration factor at the tested flow rate, differs by more than 5 percent from the value of Y obtained in the initial calibration of the meter, repeat the full 3-level calibration of the meter using stack gas to determine a new value of Y, and apply the new Y value to all subsequent gas volume measurements made with the gas flow meter.

10.2.3 Ongoing Quality Control. Recalibrate the gas flow meter quarterly at one intermediate flow rate setting representative of normal operation of the monitoring system. Follow the basic procedures in section 10.2.1.1 or 10.2.1.2 of this performance specification. If a quarterly recalibration shows that the value of Yi, the calibration factor at the tested flow rate, differs from the current value of Y by more than 5 percent, repeat the full 3-level calibration of the meter to determine a new value of Y, and apply the new Y value to all subsequent gas volume measurements made with the gas flow meter.

10.3 Calibration of Thermocouples and Other Temperature Sensors. Use the procedures and criteria in section 10.3 of Method 2 in appendix A–1 to this part to calibrate in-stack temperature sensors and thermocouples. Calibrations must be performed prior to initial use and at least quarterly thereafter. At each calibration point, the absolute temperature measured by the temperature sensor must agree to within ±1.5 percent of the temperature measured with the reference sensor, otherwise the sensor may not continue to be used.

10.4 Barometer Calibration. Calibrate the barometer against another barometer that has a NIST-traceable calibration. This calibration must be performed prior to initial use and at least quarterly thereafter. At each calibration point, the absolute pressure measured by the barometer must agree to within ±10 mm Hg of the pressure measured by the NIST-traceable barometer, otherwise the barometer may not continue to be used.

10.5 Calibration of Other Sensors and Gauges. Calibrate all other sensors and gauges according to the procedures specified by the instrument manufacturer(s).

10.6 Analytical System Calibration. *See* section 11.1 of this performance specification.

11.0 Analytical Procedures

The analysis of the Hg samples may be conducted using any instrument or technology capable of quantifying total Hg from the sorbent media and meeting the performance criteria in section 9 of this performance specification.

11.1 Analyzer System Calibration. Perform a multipoint calibration of the analyzer at three or more upscale points over the desired quantitative range (multiple calibration ranges must be calibrated, if necessary). The field samples analyzed must fall within a calibrated, quantitative range and meet the necessary performance criteria. For samples that are suitable for aliquotting, a series of dilutions may be needed to ensure that the samples fall within a calibrated range. However, for sorbent media samples that are consumed during analysis (*e.g.*, thermal desorption techniques), extra care must be taken to ensure that the analytical system is appropriately calibrated prior to sample analysis. The calibration curve range(s) should be determined based on the anticipated level of Hg mass on the sorbent media. Knowledge of estimated stack Hg concentrations and total sample volume may be required prior to analysis. The calibration curve for use with the various analytical techniques (*e.g.*, UV AA, UV AF, and XRF) can be generated by directly introducing standard solutions into the analyzer or by spiking the standards onto the sorbent media and then introducing into the analyzer after preparing the sorbent/standard according to the particular analytical technique. For each calibration curve, the value of the square of the linear correlation coefficient, *i.e.*, r^2, must be ≥ 0.99, and the analyzer response must be within ±10 percent of reference value at each upscale calibration point. Calibrations must be performed on the day of the analysis, before analyzing any of the samples. Following calibration, an independently prepared standard (not from same calibration stock solution) must be analyzed. The measured value of the independently prepared standard must be within ±10 percent of the expected value.

11.2 Sample Preparation. Carefully separate the three sections of each sorbent trap. Combine for analysis all materials associated with each section, *i.e.*, any supporting substrate that the sample gas passes through prior to entering a media section (*e.g.*, glass wool, polyurethane foam, *etc.*) must be analyzed with that segment.

11.3 Spike Recovery Study. Before analyzing any field samples, the laboratory must demonstrate the ability to recover and quantify Hg from the sorbent media by performing the following spike recovery study for sorbent media traps spiked with elemental mercury. Using the procedures described in sections 6.2 and 12.1 of this performance specification, spike the third section of nine sorbent traps with gaseous Hg^0, *i.e.*, three traps at each of three different mass loadings, representing the range of masses anticipated in the field samples. This will yield a 3 × 3 sample matrix. Prepare and analyze the third section of each spiked trap, using the techniques that will be used to prepare and analyze the field samples. The average recovery for each spike concentration must be between 85 and 115 percent. If multiple types of sorbent media are to be analyzed, a separate spike recovery study is required for each sorbent material. If multiple ranges are calibrated, a separate spike recovery study is required for each range.

11.4 Field Sample Analyses. Analyze the sorbent trap samples following the same procedures that were used for conducting the spike recovery study. The three sections of each sorbent trap must be analyzed separately (*i.e.*, section 1, then section 2, then section 3). Quantify the total mass of Hg for each section based on analytical system response and the calibration curve from section 11.1 of this performance specification. Determine the spike recovery from sorbent trap section 3. The spike recovery must be no less than 75 percent and no greater than 125 percent. To report the final Hg mass for each trap, add together the Hg masses collected in trap sections 1 and 2.

12.0 Calculations, Data Reduction, and Data Analysis

12.1 Calculation of Pre-Sampling Spiking Level. Determine sorbent trap section 3 spiking level using estimates of the stack Hg concentration, the target sample flow rate, and the expected monitoring period. Calculate M_{exp}, the expected Hg mass that will be collected in section 1 of the trap, using Equation 12B–1. The pre-sampling spike must be within ±50 percent of this mass.

$$M_{exp} = [Q_s \; t_s \; C_{est}] \; x10^{-3} \qquad \text{(Equation 12B-1)}$$

Where:

M_{exp} = Expected sample mass (μg)
Q_s = Sample flow rate (L/min)
t_s = Expected monitoring period (min)
C_{est} = Estimated Hg concentration in stack gas (μg/m³)
10^{-3} = Conversion factor (m³/L)

Example calculation: For an estimated stack Hg concentration of 5 μg/m³, a target sample rate of 0.30 L/min, and a monitoring period of 5 days:

M_{exp} = (0.30 L/min)(1440 min/day)(5 days)(10^{-3} m^3/L)(5 µg/m^3) = 10.8 µg

A pre-sampling spike of 10.8 µg ±50 percent is, therefore, appropriate.

12.2 Calculations for Flow-Proportional Sampling. For the first hour of the data collection period, determine the reference ratio of the stack gas volumetric flow rate to the sample flow rate, as follows:

$$R_{ref} = \frac{KQ_{ref}}{F_{ref}} \quad \text{(Equation 12B-2)}$$

Where:

R_{ref} = Reference ratio of hourly stack gas flow rate to hourly sample flow rate

Q_{ref} = Average stack gas volumetric flow rate for first hour of collection period (scfh)

F_{ref} = Average sample flow rate for first hour of the collection period, in appropriate units (*e.g.*, liters/min, cc/min, dscm/min)

K = Power of ten multiplier, to keep the value of R_{ref} between 1 and 100. The appropriate K value will depend on the selected units of measure for the sample flow rate.

Then, for each subsequent hour of the data collection period, calculate ratio of the stack gas flow rate to the sample flow rate using Equation 12B–3:

$$R_h = \frac{KQ_h}{F_h} \quad \text{(Equation 12B-3)}$$

Where:

R_h = Ratio of hourly stack gas flow rate to hourly sample flow rate

Q_h = Average stack gas volumetric flow rate for the hour (scfh)

F_h = Average sample flow rate for the hour, in appropriate units (*e.g.*, liters/min, cc/min, dscm/min)

K = Power of ten multiplier, to keep the value of R_h between 1 and 100. The appropriate K value will depend on the selected units of measure for the sample flow rate and the range of expected stack gas flow rates.

Maintain the value of R_h within ±25 percent of R_{ref} throughout the data collection period.

12.3 Calculation of Spike Recovery. Calculate the percent recovery of each section 3 spike, as follows:

$$\%R = \frac{M_3}{M_s} \times 100 \quad \text{(Equation 12B-4)}$$

Where:

%R = Percentage recovery of the pre-sampling spike

M_3 = Mass of Hg recovered from section 3 of the sorbent trap, (µg)

M_s = Calculated Hg mass of the pre-sampling spike, from section 8.1.2 of this performance specification, (µg)

12.4 Calculation of Breakthrough. Calculate the percent breakthrough to the second section of the sorbent trap, as follows:

$$\%B = \frac{M_2}{M_1} \times 100 \quad \text{(Equation 12B-5)}$$

Where:

%B = Percent breakthrough

M_2 = Mass of Hg recovered from section 2 of the sorbent trap, (µg)

M_1 = Mass of Hg recovered from section 1 of the sorbent trap, (µg)

12.5 Calculation of Hg Concentration. Calculate the Hg concentration for each sorbent trap, using the following equation:

$$C = \frac{M^*}{V_t} \quad \text{(Equation 12B-6)}$$

Where:

C = Concentration of Hg for the collection period, (µg/dscm)

M^* = Total mass of Hg recovered from sections 1 and 2 of the sorbent trap, (µg)

V_t = Total volume of dry gas metered during the collection period, (dscm). For the purposes of this performance specification, standard temperature and pressure are defined as 20 °C and 760 mm Hg, respectively.

12.6 Calculation of Paired Trap Agreement. Calculate the relative deviation (RD) between the Hg concentrations measured with the paired sorbent traps:

$$RD = \frac{|C_a - C_b|}{C_a + C_b} x100 \quad \text{(Equation 12B-7)}$$

Where:

RD = Relative deviation between the Hg concentrations from traps "a" and "b" (percent)

C_a = Concentration of Hg for the collection period, for sorbent trap "a" (µg/dscm)

C_b = Concentration of Hg for the collection period, for sorbent trap "b" (µg/dscm)

12.7 Calculation of Relative Accuracy. Calculate the relative accuracy as described in Section 12.4 of PS 12A in this appendix.

12.8 Data Reduction. Typical monitoring periods for normal, day-to-day operation of a sorbent trap monitoring system range from about 24 hours to 168 hours. For the required RA tests of the system, smaller sorbent traps are often used, and the "monitoring period" or time per run is considerably shorter (*e.g.*, 1 hour or less). Generally speaking, to validate sorbent trap monitoring system data, the acceptance criteria for the following five QC specifications in Table 12B–1 above must be met for both traps: (a) the post-monitoring leak check; (b) the ratio of stack gas flow rate to sample flow rate; (c) section 2 breakthrough; (d) paired trap agreement; and (e) section 3 spike recovery.

12.8.1 For routine day-to-day operation of a sorbent trap monitoring system, when both traps meet the acceptance criteria for all five QC specifications, the two measured Hg concentrations must be averaged arithmetically and the average value must be applied to each hour of the data collection period.

12.8.2 To validate a RA test run, both traps must meet the acceptance criteria for all five QC specifications. However, as specified in Section 12.8.3 below, for routine day-to-day operation of the monitoring system, a monitoring period may, in certain instances, be validated based on the results from one trap.

12.8.3 For the routine, day-to-day operation of the monitoring system, when one of the two sorbent trap samples or sampling systems either: (a) Fails the post-monitoring leak check; or (b) has excessive section 2 breakthrough; or (c) fails to maintain the proper stack flow-to-sample flow ratio; or (d) fails to achieve the required section 3 spike recovery, provided that the other trap meets the acceptance criteria for all four of these QC specifications, the Hg concentration measured by the valid trap may be multiplied by a factor of 1.111 and then used for reporting purposes. Further, if both traps meet the acceptance criteria for all four of these QC specifications, but the acceptance criterion for paired trap agreement is not met, the owner or operator may report the higher of the two Hg concentrations measured by the traps, in lieu of invalidating the data from the paired traps.

12.8.4 Whenever the data from a pair of sorbent traps must be invalidated and no quality-assured data from a certified backup Hg monitoring system or Hg reference method are available to cover the hours in the data collection period, treat those hours in the manner specified in the applicable regulation (*i.e.*, use missing data substitution procedures or count the hours as monitoring system down time, as appropriate).

13.0 Monitoring System Performance

These monitoring criteria and procedures have been successfully applied to coal-fired utility boilers (including units with post-combustion emission controls), having vapor-phase Hg concentrations ranging from 0.03 µg/dscm to approximately 100 µg/dscm.

14.0 Pollution Prevention [Reserved]

15.0 Waste Management [Reserved]

16.0 Alternative Procedures [Reserved]

17.0 Bibliography

17.1 40 CFR Part 60, Appendix B, "Performance Specification 2—Specifications and Test Procedures for SO_2 and NO_x Continuous Emission Monitoring Systems in Stationary Sources."

17.2 40 CFR Part 60, Appendix B, "Performance Specification 12A—Specifications and Test Procedures for Total Vapor Phase Mercury Continuous Emission Monitoring Systems in Stationary Sources."

Appendix F—[Amended]

■ 8. Appendix F to 40 CFR part 60 is amended to add and reserve Procedures 3 and 4, and add Procedure 5, to read as follows:

Appendix F to Part 60—Quality Assurance Procedures

* * * * *

Procedure 3. [Reserved]

Procedure 4. [Reserved]

Procedure 5. Quality Assurance Requirements for Vapor Phase Mercury Continuous Emissions Monitoring Systems and Sorbent Trap Monitoring Systems Used for Compliance Determination at Stationary Sources

1.0 Applicability and Principle

1.1 Applicability. The purpose of Procedure 5 is to establish the minimum requirements for evaluating the effectiveness of quality control (QC) and quality assurance (QA) procedures as well as the quality of data produced by vapor phase mercury (Hg) continuous emissions monitoring systems (CEMS) and sorbent trap monitoring systems. Procedure 5 applies to Hg CEMS and sorbent trap monitoring systems used for continuously determining compliance with emission standards or operating permit limits as specified in an applicable regulation or permit. Other QA/QC procedures may apply to other auxiliary monitoring equipment that may be needed to determine Hg emissions in the units of measure specified in an applicable permit or regulation.

Procedure 5 covers the measurement of Hg emissions as defined in Performance Specification 12A (PS 12A) and Performance Specification 12B (PS 12B) in appendix B to this part, *i.e.*, total vapor phase Hg representing the sum of the elemental (Hg^0, CAS Number 7439–97–6) and oxidized (Hg^{+2}) forms of gaseous Hg.

Procedure 5 specifies the minimum requirements for controlling and assessing the quality of Hg CEMS and sorbent trap monitoring system data submitted to EPA or a delegated permitting authority. You must meet these minimum requirements if you are responsible for one or more Hg CEMS or sorbent trap monitoring systems used for compliance monitoring. We encourage you to develop and implement a more extensive QA program or to continue such programs where they already exist.

You must comply with the basic requirements of Procedure 5 immediately following successful completion of the initial performance test described in PS 12A or PS 12B in appendix B to this part (as applicable).

1.2 Principle. The QA procedures consist of two distinct and equally important functions. One function is the assessment of the quality of the Hg CEMS or sorbent trap monitoring system data by estimating accuracy. The other function is the control and improvement of the quality of the CEMS or sorbent trap monitoring system data by implementing QC policies and corrective actions. These two functions form a control loop: When the assessment function indicates that the data quality is inadequate, the quality control effort must be increased until the data quality is acceptable. In order to provide uniformity in the assessment and reporting of data quality, this procedure explicitly specifies assessment methods for calibration drift, system integrity, and accuracy. Several of the procedures are based on those of PS 12A and PS 12B in appendix B to this part. Because the control and corrective action function encompasses a variety of policies, specifications, standards, and corrective measures, this procedure treats QC requirements in general terms to allow each source owner or operator to develop a QC system that is most effective and efficient for the circumstances.

2.0 Definitions

2.1 *Mercury Continuous Emission Monitoring System (Hg CEMS)* means the equipment required for the determination of the total vapor phase Hg concentration in the stack effluent. The Hg CEMS consists of the following major subsystems:

2.1.1 *Sample Interface* means that portion of the CEMS used for one or more of the following: sample acquisition, sample transport, sample conditioning, and protection of the monitor from the effects of the stack effluent.

2.1.2 *Hg Analyzer* means that portion of the Hg CEMS that measures the total vapor phase Hg concentration and generates a proportional output.

2.1.3 *Data Recorder* means that portion of the CEMS that provides a permanent electronic record of the analyzer output. The data recorder may provide automatic data reduction and CEMS control capabilities.

2.2 *Sorbent Trap Monitoring System* means the total equipment required for the collection of gaseous Hg samples using paired three-partition sorbent traps as described in PS 12B in appendix B to this part.

2.3 *Span Value* means the measurement range as specified for the affected source category in the applicable regulation and/or monitoring performance specification.

2.4 *Zero, Mid-Level, and High Level Values* means the reference gas concentrations used for calibration drift assessments and system integrity checks on a Hg CEMS, expressed as percentages of the span value (*see* section 7.1 of PS 12A in appendix B to this part).

2.5 *Calibration Drift (CD)* means the absolute value of the difference between the CEMS output response and either the upscale Hg reference gas or the zero-level Hg reference gas, expressed as a percentage of the span value, when the entire CEMS, including the sampling interface, is challenged after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.6 *System Integrity (SI) Check* means a test procedure assessing transport and measurement of oxidized Hg by a Hg CEMS. In particular, system integrity is expressed as the absolute value of the difference between the CEMS output response and the reference value of either a mid- or high-level mercuric chloride ($HgCl_2$) reference gas, as a percentage of span, when the entire CEMS, including the sampling interface, is challenged.

2.7 *Relative Accuracy (RA)* means the absolute mean difference between the pollutant concentrations determined by a continuous monitoring system (*e.g.*, Hg CEMS or sorbent trap monitoring system) and the values determined by a reference method (RM) plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the RM tests. Alternatively, for sources with an average RM concentration less than 5.0 micrograms per standard cubic meter (µg/scm), the RA may be expressed as the absolute value of the difference between the mean CEMS and RM values.

2.8 *Relative Accuracy Test Audit (RATA)* means an audit test procedure consisting of at least nine runs, in which the accuracy of the total vapor phase Hg concentrations measured by a CEMS or sorbent trap monitoring system is evaluated by comparison against concurrent measurements made with a reference test method.

2.9 *Quarterly Gas Audit (QGA)* means an audit procedure in which the accuracy of the total vapor phase Hg concentrations measured by a CEMS is evaluated by challenging the CEMS with a zero and two upscale reference gases.

3.0 QC Requirements

3.1 Each source owner or operator must develop and implement a QC program. At a minimum, each QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities (as applicable):

(a) Calibration drift (CD) checks of Hg CEMS.

(b) CD determination and adjustment of Hg CEMS.

(c) Weekly system integrity check procedures for Hg CEMS.

(d) Routine operation, maintenance, and QA/QC procedures for sorbent trap monitoring systems.

(e) Routine and preventive maintenance procedures for Hg CEMS (including spare parts inventory).

(f) Data recording, calculations, and reporting.

(g) Accuracy audit procedures for Hg CEMS and sorbent trap monitoring systems including sampling and analysis methods.

(h) Program of corrective action for malfunctioning Hg CEMS and sorbent trap monitoring systems.

These written procedures must be kept on record and available for inspection by the responsible enforcement agency. Also, as noted in Section 5.2.4, below, whenever excessive inaccuracies of a Hg CEMS occur for two consecutive quarters, the source owner or operator must revise the current written procedures or modify or replace the CEMS or sorbent trap monitoring system to correct the deficiency causing the excessive inaccuracies.

4.0 Calibration Drift (CD) Assessment

4.1 CD Requirement. As described in 40 CFR 60.13(d) and 63.8(c), source owners and operators of Hg CEMS must check, record, and quantify the CD at two concentration values at least once daily (approximately 24 hours) in accordance with the method prescribed by the manufacturer. The Hg CEMS calibration must, as minimum, be adjusted whenever the daily zero (or low-level) CD or the daily high-level CD exceeds two times the limits of the applicable PS in appendix B of this part.

4.2 Recording Requirement for Automatic CD Adjusting CEMS. CEMS that

automatically adjust the data to the corrected calibration values (*e.g.*, microprocessor control) must either be programmed to record the unadjusted concentration measured in the CD prior to resetting the calibration, if performed, or to record the amount of adjustment.

4.3 Criteria for Excessive CD. If either the zero (or low-level) or high-level CD result exceeds twice the applicable drift specification in section 13.2 of PS 12A in appendix B to this part for five, consecutive, daily periods, the CEMS is out-of-control. If either the zero (or low-level) or high-level CD result exceeds four times the applicable drift specification in PS 12A during any CD check, the CEMS is out-of-control. If the CEMS is out-of-control, take necessary corrective action. Following corrective action, repeat the CD checks.

4.3.1 Out-Of-Control Period Definition. The beginning of the out-of-control period is the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit. The end of the out-of-control period is the time corresponding to the completion of the CD check following corrective action that results in the CD's at both the zero (or low-level) and high-level measurement points being within the corresponding allowable CD limit (*i.e.*, either two times or four times the allowable limit in the applicable PS in appendix B).

4.3.2 CEMS Data Status During Out-of-Control Period. During the period the CEMS is out-of-control, the CEMS data may not be used either to determine compliance with an emission limit or to meet a minimum data availability requirement specified in an applicable regulation or permit.

5.0 Data Accuracy Assessment

5.1 Hg CEMS Audit Requirements. For each Hg CEMS, an accuracy audit must be performed at least once each calendar quarter. Successive quarterly audits must, to the extent practicable, be performed no less than 2 months apart. The audits must be conducted as follows:

5.1.1 Relative Accuracy Test Audit (RATA). A RATA of the Hg CEMS must be conducted at least once every four calendar quarters, except as otherwise noted in section 5.1.4 of this appendix. Perform the RATA as described in section 8.5 of PS 12A in appendix B to this part. Calculate the results according to section 12.4 of PS 12A.

5.1.2 Quarterly Gas Audit. A quarterly gas audit (QGA) may be conducted in three of four calendar quarters, but in no more than three quarters in succession. To perform a QGA, challenge the CEMS with a zero-level and two upscale level audit gases of known concentrations, first of elemental Hg and then of oxidized Hg, within the following ranges:

Audit point	Audit range
1	20 to 30% of span value.
2	50 to 60% of span value.

Sequentially inject each of the three audit gases (zero and two upscale), three times each for a total of nine injections. Inject the gases in such a manner that the entire CEMS is challenged. Do not inject the same gas concentration twice in succession.

Use elemental Hg and oxidized Hg (mercuric chloride, $HgCl_2$) audit gases that are National Institute of Standards and Technology (NIST)-certified or NIST-traceable following an EPA Traceability Protocol. If audit gas cylinders are used, do not dilute gas when challenging the Hg CEMS. For each reference gas concentration, determine the average of the three CEMS responses and subtract the average response from the reference gas value. Calculate the measurement error at each gas level using Equation 12A–1 in section 8.2 of PS 12A.

5.1.3 Relative Accuracy Audit (RAA). As an alternative to the QGA, a RAA may be conducted in three of four calendar quarters, but in no more than three quarters in succession. To conduct a RAA, follow the RATA test procedures in section 8.5 of PS 12A in appendix B to this part, except that only three test runs are required.

5.1.4 Alternative Quarterly Audits. Alternative quarterly audit procedures may be used as approved by the Administrator for three of four calendar quarters. One RATA is required at least every four calendar quarters, except in the case where the affected facility is off-line (does not operate) in the fourth calendar quarter since the quarter of the previous RATA. In that case, the RATA must be performed in the quarter in which the unit recommences operation. Also, quarterly gas audits (or RAAs, if applicable) are not required for calendar quarters in which the affected facility does not operate.

5.2 Sorbent Trap Monitoring System Audit Requirements. For each sorbent trap monitoring system, a RATA must be conducted at least once every four calendar quarters, except as otherwise noted in section 5.1.4 of this appendix. Perform the RATA as described in section 8.3 of PS 12B in appendix B to this part. Calculate the results according to section 12.4 of PS 12A.

5.3 Excessive Audit Inaccuracy. If the results of a RATA, QGA, or RAA exceed the applicable criteria in section 5.3.3, the Hg CEMS or sorbent trap monitoring system is out-of-control. If the Hg CEMS or sorbent trap monitoring system is out-of-control, take necessary corrective action to eliminate the problem. Following corrective action, the source owner or operator must audit the CEMS or sorbent trap monitoring system using the same type of test that failed to meet the accuracy criterion. For instance, a RATA must always be performed following an out-of-control period resulting from a failed RATA. Whenever audit results show the Hg CEMS or sorbent trap monitoring system to be out-of-control, the owner or operator must report both the results of the failed test and the results of the retest following corrective action showing the CEMS to be operating within specifications.

5.3.1 Out-Of-Control Period Definition. The beginning of the out-of-control period is the hour immediately following the completion of a RATA, RAA, QGA or system integrity check that fails to meet the applicable performance criteria in section 5.3.3, below. The end of the out-of-control period is the time corresponding to the completion of a subsequent successful test of the same type.

5.3.2 Monitoring Data Status During Out-Of-Control Period. During the period the monitor is out-of-control, the monitoring data may not be used to determine compliance with an applicable emission limit or to meet a minimum data availability requirement in an applicable regulation or permit.

5.3.3 Criteria for Excessive Audit Inaccuracy. Unless specified otherwise in an applicable regulation or permit, the criteria for excessive inaccuracy are:

(a) For the RATA, the allowable RA in the applicable PS in appendix B (*e.g.*, PS 12A or PS 12B).

(b) For the QGA, ±15 percent of the average audit value or ±0.5 $\mu g/m^3$, whichever is greater.

(c) For the RAA, ±20 percent of the three run average or ±10 percent of the applicable standard, whichever is greater.

5.3.4 Criteria for Acceptable QC Procedures. Repeated excessive inaccuracies (*i.e.*, out-of-control conditions resulting from the quarterly audits) indicates the QC procedures are inadequate or that the CEMS or sorbent trap monitoring system is incapable of providing quality data. Therefore, whenever excessive inaccuracies occur for two consecutive quarters, the source owner or operator must revise the QC procedures (*see* Section 3) or modify, repair, or replace the CEMS or sorbent trap monitoring system.

6.0 Reporting Requirements

6.1 Data Assessment Report. At the reporting interval specified in the applicable regulation or permit, report for each Hg CEMS and/or sorbent trap monitoring system the accuracy assessment results from Section 5, above. For Hg CEMS, also report the CD assessment results from Section 4, above. Report this information as a Data Assessment Report (DAR), and include the appropriate DAR(s) with the emissions report required under the applicable regulation or permit.

6.2 Contents of the DAR. At a minimum, the DAR must contain the following information:

6.2.1 Facility name and address including identification of source owner/operator.

6.2.2 Identification and location of each Hg CEMS and/or sorbent trap monitoring system.

6.2.3 Manufacturer, model, and serial number of each Hg CEMS and/or sorbent trap monitoring system.

6.2.4 CD Assessment for each Hg CEMS, including the identification of out-of-control periods.

6.2.5 System integrity check data for each Hg CEMS.

6.2.6 Accuracy assessment for each Hg CEMS and/or sorbent trap monitoring system, including the identification of out-of-control periods. The results of all required RATAs, QGAs, RAAs, and audits of auxiliary equipment must be reported. If an accuracy audit shows a CEMS or sorbent trap monitoring system to be out-of-control, report both the audit results that caused the out-of-control period and the results of the retest following corrective action, showing the

monitoring system to be operating within specifications.

6.2.6. Summary of all corrective actions taken when the Hg CEMS and/or sorbent trap monitoring system was determined to be out-of-control.

6.3 Data Retention. As required in 40 CFR 60.7(d) and 63.10(b), all measurements from CEMS and sorbent trap monitoring systems, including the quality assurance data required by this procedure, must be retained by the source owner for at least 5 years.

7.0 Bibliography

7.1 Calculation and Interpretation of Accuracy for Continuous Emission Monitoring Systems (CEMS). Section 3.0.7 of the Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III, Stationary Source Specific Methods. EPA–600/4–77–027b. August 1977. U.S. Environmental Protection Agency. Office of Research and Development Publications, 26 West St. Clair Street, Cincinnati, OH 45268.

PART 63—[AMENDED]

■ 9. The authority citation for part 63 continues to read as follows:

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

■ 10. Section 63.14 is amended by revising paragraph (b)(54) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(b) * * *

(54) ASTM D6348–03, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, incorporation by reference (IBR) approved for § 63.1349(b)(4)(iii) of subpart LLL and table 4 to subpart DDDD of this part as specified in the subpart.

* * * * *

Subpart LLL—[Amended]

■ 11. Section 63.1340 is revised to read as follows:

§ 63.1340 What parts of my plant does this subpart cover?

(a) The provisions of this subpart apply to each new and existing portland cement plant which is a major source or an area source as defined in § 63.2.

(b) The affected sources subject to this subpart are:

(1) Each kiln including alkali bypasses, except for kilns that burn hazardous waste and are subject to and regulated under subpart EEE of this part;

(2) Each clinker cooler at any portland cement plant;

(3) Each raw mill at any portland cement plant;

(4) Each finish mill at any portland cement plant;

(5) Each raw material dryer at any portland cement plant;

(6) Each raw material, clinker, or finished product storage bin at any portland cement plant;

(7) Each conveying system transfer point including those associated with coal preparation used to convey coal from the mill to the kiln at any portland cement plant;

(8) Each bagging and bulk loading and unloading system at any portland cement plant; and

(9) Each open clinker pile at any portland cement plant.

(c) Crushers are not covered by this subpart regardless of their location.

(d) If you are subject to any of the provisions of this subpart you are also subject to title V permitting requirements.

■ 12. Section 63.1341 is amended by adding definitions for "Affirmative defense," "Clinker," "Crusher," "Enclosed storage pile," "Inactive clinker pile," "New source," "Operating day," "Sorbent," "Total organic HAP" and "Totally enclosed conveying system transfer point" in alphabetic order, and revising the definition of "Kiln" to read as follows:

§ 63.1341 Definitions.

* * * * *

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

* * * * *

Clinker means the product of the process in which limestone and other materials are heated in the kiln and is then ground with gypsum and other materials to form cement.

* * * * *

Crusher means a machine designed to reduce large rocks from the quarry into materials approximately the size of gravel.

* * * * *

Enclosed storage pile means any storage pile that is completely enclosed in a building or structure consisting of a solid roof and walls.

* * * * *

Inactive clinker pile is a pile of clinker material that has not been disturbed, removed, and/or added to as a result of loading, unloading, and/or transferring activities for 30 (thirty) consecutive days.

* * * * *

Kiln means a device, including any associated preheater or precalciner devices, inline raw mills, or alkali bypasses that produces clinker by heating limestone and other materials for subsequent production of portland cement. Because the inline raw mill is considered an integral part of the kiln, for purposes of determining the appropriate emissions limit, the term kiln also applies to the exhaust of the inline raw mill.

* * * * *

New source means any source that commenced construction after May 6, 2009, for purposes of determining the applicability of the kiln, clinker cooler and raw material dryer emissions limits for mercury, PM, THC, and HCl, and the requirements for open clinker storage piles.

* * * * *

Operating day means any daily 24-hour period during which the kiln operates. For 30-day rolling averages, *operating days* include only days of normal operation and do not include periods of operation during startup or shutdown. For 7-day rolling averages, *operating days* include only days of operation during startup and shutdown and do not include periods of normal operation. Data attributed to an *operating day* includes all valid data obtained during the daily 24-hour period and excludes any measurements made when the kiln was not operating.

* * * * *

Sorbent means activated carbon, lime, or any other type of material injected into kiln exhaust for the purposes of capturing and removing any hazardous air pollutant.

* * * * *

Total organic HAP means, for the purposes of this subpart, the sum of the concentrations of compounds of formaldehyde, benzene, toluene, styrene, m-xylene, p-xylene, o-xylene, acetaldehyde, and naphthalene as measured by EPA Test Method 320 of appendix A to this part or ASTM D6348–03. Only the measured concentration of the listed analytes that are present at concentrations exceeding one-half the quantitation limit of the analytical method are to be used in the sum. If any of the analytes are not detected or are detected at concentrations less than one-half the quantitation limit of the analytical method, the concentration of those analytes will be assumed to be zero for the purposes of calculating the total organic HAP for this subpart.

* * * * *

Totally enclosed conveying system transfer point means a conveying

system transfer point that is enclosed on all sides, top, and bottom.

* * * * *

■ 13. Section 63.1343 is revised to read as follows:

§ 63.1343 What standards apply to my kilns, clinker coolers, raw material dryers, and open clinker piles?

(a) *General.* The provisions in this section apply to each kiln and any alkali bypass associated with that kiln, clinker cooler, and raw material dryer. All dioxin D/F, HCl, and total hydrocarbon (THC) emission limits are on a dry basis. The D/F, HCl and THC limits for kilns are corrected to 7 percent oxygen except during periods of startup and shutdown. The raw material dryer THC limits are corrected to 19 percent oxygen except during startup and shutdown. During startup and shutdown no oxygen correction is applied. All (THC) emission limits are measured as propane. Standards for mercury, PM, and THC are based on a 30-day rolling average, except for periods of startup and shutdown, where the standard is based on a 7-day rolling average. The 30-day and 7-day periods mean 30 and 7 consecutive operating days, respectively, where an operating day is any daily 24-hour period during which the kiln operates. Data attributed to an operating day includes all valid data obtained during the daily 24-hour period and excludes any measurements made when the kiln was not operating. If using a CEMS to determine compliance with the HCl standard, this standard is based on a 30-day rolling average, except for periods of startup and shutdown, where the standard is based on a 7-day rolling average. You must ensure appropriate corrections for moisture are made when measuring flowrates used to calculate particulate matter (PM) and mercury emissions.

(b)(1) *Kilns, clinker coolers, raw material dryers, raw mills, and finish mills.* The emission limits for these sources are shown in table 1 below.

TABLE 1—EMISSIONS LIMITS FOR KILNS (ROWS 1–8), CLINKER COOLERS (ROWS 9–12), RAW MATERIAL DRYERS (ROWS 13–15), RAW AND FINISH MILLS (ROW 16)

	If your source is	And the operating mode is:	And if is located	Your emissions limits are:	And the units of the emissions limit are:	The oxygen correction factor is:
1.	An existing kiln	Normal operation	At a major or area source.	PM—0.04	lb/ton clinker	NA.
				D/F—0.2[1]	ng/dscm (TEQ)	7 percent.
				Mercury—55	lb/MM tons clinker	NA.
				THC—24[2,3]	ppmvd	7 percent.
2.	An existing kiln	Normal operation	At a major source	HCl—3	ppmvd	7 percent.
3.	An existing kiln	Startup and shutdown.	At a major or area source.	PM—0.004	gr/dscf	NA.
				D/F—0.2[1]	ng/dscm (TEQ)	NA.
				Mercury—10	ug/dscm	NA.
				THC—24[2,3]	ppmvd	NA.
4.	An existing kiln	Startup and shutdown.	At a major source	HCl—3[4]	ppmvd	NA.
5.	A new kiln	Normal operation	At a major or area source.	PM—0.01	lb/ton clinker	NA.
				D/F—0.2[1]	ng/dscm (TEQ)	7 percent.
				Mercury—21	lb/MM tons clinker	NA.
				THC—24[2,3]	ppmvd	7 percent.
6.	A new kiln	Normal operation	At a major source	HCl—3[4]	ppmvd	7 percent.
7.	A new kiln	Startup or shutdown	At a major or area source.	PM—0.0008	gr/dscf	NA.
				D/F—0.2[1]	ng/dscm (TEQ)	NA.
				Mercury—4	ug/dscm	NA.
				THC—24[2,3]	ppmvd	NA.
8.	A new kiln	Startup and shutdown.	At a major source	HCl—3	ppmvd	NA.
9.	An existing clinker cooler.	Normal operation	At a major or area source.	PM—0.04	lb/ton clinker	NA.
10.	An existing clinker cooler.	Startup and shutdown.	At a major or area source.	PM—0.004	gr/dscf	NA.
11.	A new clinker cooler.	Normal operation	At a major or area source.	PM—0.01	lb/ton clinker	NA.
12.	A new clinker cooler.	Startup and shutdown.	At a major or area source.	PM—0.0008	gr/dscf	NA.
13.	An existing or new raw material dryer.	Normal operation	At a major or area source.	THC—24[2,3]	ppmvd	19 percent.
14.	An existing or new raw material dryer.	Startup and shutdown.	At a major or area source.	THC—24[2,3]	ppmvd	NA.
15.	An existing or new raw material dryer.	All operating modes	At a major source	Opacity—10	percent	NA.
16.	An existing or new raw or finish mill.	All operating modes		Opacity—10	percent	NA.

[1] If the average temperature at the inlet to the first particulate matter control device (fabric filter or electrostatic precipitator) during the D/F performance test is 400 °F or less this limit is changed to 0.4 ng/dscm (TEQ).

[2] Measured as propane.

[3] Any source subject to the 24 ppmvd THC limit may elect to meet an alternative limit of 9 ppmvd for total organic HAP. If the source demonstrates compliance with the total organic HAP under the requirements of § 63.1349 then the source's THC limit will be adjusted to equal the average THC emissions measured during the organic HAP compliance test.

[4] If the kiln does not have a HCl CEM, the emissions limit is zero.

(2) When there is an alkali bypass associated with a kiln, the combined PM emissions from the kiln or in-line kiln/raw mill and the alkali bypass stack are subject to the PM emissions limit.

Existing kilns that combine the clinker cooler exhaust with the kiln exhaust for energy efficiency purposes and send the combined exhaust to the PM control device as a single stream may meet an alternative PM emissions limit. This limit is calculated using the equation 1 of this section:

$$PM_{alt} = 0.004 \times 1.65 \times (Q_k + Q_c)/7000 \quad \text{(Eq. 1)}$$

Where:

0.004 is the PM exhaust concentration (gr/dscf) equivalent to 0.04 lb per ton clinker where clinker cooler and kiln exhaust gas are not combined.

1.65 is the conversion factor of lb feed per lb clinker

Q_k is the exhaust flow of the kiln (dscf/ton raw feed)

Q_c is the exhaust flow of the clinker cooler (dscf/ton raw feed).

For new kilns that combine kiln exhaust and clinker cooler gas the limit is calculated using the equation 2 of this section:

$$PM_{alt} = 0.0008 \times 1.65 \times ((Q_k + Q_c)/7000 \quad \text{(Eq. 2)}$$

Where:

0.0008 is the PM exhaust concentration (gr/dscf) equivalent to 0.01 lb per ton clinker where clinker cooler and kiln exhaust gas are not combined

1.65 is the conversion factor of lb feed per lb clinker

Q_k is the exhaust flow of the kiln (dscf/ton raw feed)

Q_c is the exhaust flow of the clinker cooler (dscf/ton raw feed).

(c) If clinker material storage and handling activities occur more than 1,000 feet from the facility property-line you must comply with the following:

(1) Utilize a three-sided barrier with roof, provided the open side is covered with a wind fence material of a maximum 20 percent porosity, allowing a removable opening for vehicle access. The removable wind fence for vehicle access may be removed only during minor or routine maintenance activities, the creation or reclamation of outside storage piles, the importation of clinker from outside the facility, and reclamation of plant clean-up materials. The removable opening must be less than 50 percent of the total surface area of the wind fence and the amount of time must be minimized to the extent feasible.

(2) Contain storage and handling of material that is immediately adjacent to the three-sided barrier within an area next to the structure with a wind fence on at least two sides, with at least a 5-foot freeboard above the top of the storage pile to provide wind sheltering, and completely cover the material with an impervious tarp, revealing only the active disturbed portion during material loading and unloading activities.

(3) Storage and handling of other active clinker material must be conducted within an area surrounded on three sides by a barrier or wind fences with one side of the wind fence facing the prevailing wind and at least a 5-foot freeboard above the top of the storage pile to provide wind sheltering. The clinker must remain completely covered at all times with an impervious tarp, revealing only the active disturbed portion during material loading and unloading activities. The barrier or wind fence must extend at least 20 feet beyond the active portion of the material at all times.

(4) Inactive clinker material may be alternatively stored using a continuous and impervious tarp, covered at all times, provided records are kept demonstrating the inactive status of such stored material.

(d) If clinker material storage and handling activities occur 1,000 feet or less from the facility property-line these activities must be in an enclosed storage area that meets the emissions limits specified in § 63.1345.

■ 14. Section 63.1344 is revised to read as follows:

§ 63.1344 Affirmative defense for exceedance of emission limit during malfunction.

In response to an action to enforce the standards set forth in paragraph § 63.1343(b) you may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed, however, if the respondent fails to meet its burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a limit, the owners or operators of facilities must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The excess emissions:

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

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

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

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

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

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

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

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

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

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

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

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

(b) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than two business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 30 days of the initial occurrence of the exceedance of the standard in § 63.1343(b) to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section.

■ 15. Section 63.1345 is revised to read as follows:

§ 63.1345 Emissions limits for affected sources other than kilns; in-line kiln/raw mills; clinker coolers; new and reconstructed raw material dryers; and raw and finish mills, and open clinker piles.

The owner or operator of each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; and bulk loading or unloading system; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of ten percent.

16. Section 63.1346 is revised to read as follows:

§ 63.1346 Operating limits for kilns.

(a) The owner or operator of a kiln subject to a D/F emission limitation under § 63.1343 must operate the kiln such that the temperature of the gas at the inlet to the kiln particulate matter control device (PMCD) and alkali bypass PMCD, if applicable, does not exceed the applicable temperature limit specified in paragraph (b) of this section. The owner or operator of an in-line kiln/raw mill subject to a D/F emission limitation under § 63.1343 must operate the in-line kiln/raw mill, such that:

(1) When the raw mill of the in-line kiln/raw mill is operating, the applicable temperature limit for the main in-line kiln/raw mill exhaust, specified in paragraph (b) of this section and established during the performance test when the raw mill was operating is not exceeded, except during periods of startup/shutdown when the temperature limit may be exceeded by no more than 10 percent.

(2) When the raw mill of the in-line kiln/raw mill is not operating, the applicable temperature limit for the main in-line kiln/raw mill exhaust, specified in paragraph (b) of this section and established during the performance test when the raw mill was not operating, is not exceeded, except during periods of startup/shutdown when the temperature limit may be exceeded by no more than 10 percent.

(3) If the in-line kiln/raw mill is equipped with an alkali bypass, the applicable temperature limit for the alkali bypass specified in paragraph (b) of this section and established during the performance test, with or without the raw mill operating, is not exceeded, except during periods of startup/shutdown when the temperature limit may be exceeded by no more than 10 percent.

(b) The temperature limit for affected sources meeting the limits of paragraph (a) of this section or paragraphs (a)(1) through (a)(3) of this section is determined in accordance with § 63.1349(b)(3)(iv).

(c) For an affected source subject to a D/F emission limitation under § 63.1343 that employs sorbent injection as an emission control technique you must operate the sorbent injection system in accordance with paragraphs (c)(1) and (c)(2) of this section.

(1) The three-hour rolling average activated sorbent injection rate must be equal to or greater than the sorbent injection rate determined in accordance with § 63.1349(b)(3)(vi).

(2) You must either:

(i) Maintain the minimum activated carbon injection carrier gas flow rate, as a three-hour rolling average, based on the manufacturer's specifications. These specifications must be documented in the test plan developed in accordance with § 63.7(c), or

(ii) Maintain the minimum activated carbon injection carrier gas pressure drop, as a three-hour rolling average, based on the manufacturer's specifications. These specifications must be documented in the test plan developed in accordance with § 63.7(c).

(d) Except as provided in paragraph (e) of this section, for an affected source subject to a D/F emission limitation under § 63.1343 that employs carbon injection as an emission control technique you must specify and use the brand and type of sorbent used during the performance test until a subsequent performance test is conducted, unless the site-specific performance test plan contains documentation of key parameters that affect adsorption and the owner or operator establishes limits based on those parameters, and the limits on these parameters are maintained.

(e) For an affected source subject to a D/F emission limitation under § 63.1343 that employs carbon injection as an emission control technique you may substitute, at any time, a different brand or type of sorbent provided that the replacement has equivalent or improved properties compared to the sorbent specified in the site-specific performance test plan and used in the performance test. The owner or operator must maintain documentation that the substitute sorbent will provide the same or better level of control as the original sorbent.

(f) No kiln may use as a raw material or fuel any fly ash where the mercury content of the fly ash has been increased through the use of activated carbon, or any other sorbent, unless the facility can demonstrate that the use of that fly ash will not result in an increase in mercury emissions over baseline emissions (*i.e.*, emissions not using the fly ash). The facility has the burden of proving there has been no emissions increase over baseline. Once the kiln must comply with a mercury limit specified in § 63.1343, this paragraph no longer applies.

■ 17. Section 63.1347 is revised to read as follows:

§ 63.1347 Operation and maintenance plan requirements.

(a) You must prepare, for each affected source subject to the provisions of this subpart, a written operations and maintenance plan. The plan must be submitted to the Administrator for review and approval as part of the application for a part 70 permit and must include the following information:

(1) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §§ 63.1343 through 63.1348;

(2) Corrective actions to be taken when required by paragraph § 63.1350(f)(3);

(3) Procedures to be used during an inspection of the components of the combustion system of each kiln and each in-line kiln raw mill located at the facility at least once per year.

(b) Failure to comply with any provision of the operations and maintenance plan developed in accordance with this section is a violation of the standard.

■ 18. Section 63.1348 is revised to read as follows:

§ 63.1348 Compliance requirements.

(a) *Initial compliance requirements.* For an affected source subject to this subpart, you must demonstrate initial compliance with the emissions standards and operating limits by using the test methods and procedures in §§ 63.1349 and 63.7.

(1) *PM compliance.* If you are subject to limitations on PM emissions under § 63.1343(b), you must demonstrate initial compliance with the PM emissions standards by using the test methods and procedures in § 63.1349(b)(1).

(i) You must demonstrate initial compliance by conducting a performance test as specified in § 63.1349(b)(1)(i).

(ii) Compliance with the PM emissions standard must be determined based on the first 30 operating days you operate a PM CEMS.

(2) *Opacity compliance.* If you are subject to the limitations on opacity under § 63.1345, you must demonstrate initial compliance with the opacity emissions standards by using the performance test methods and procedures in § 63.1349(b)(2). The maximum 6-minute average opacity exhibited during the performance test period must be used to determine whether the affected source is in initial compliance with the standard.

(3) *D/F compliance.*

(i) If you are subject to limitations on D/F emissions under § 63.1343(b), you must demonstrate initial compliance with the D/F emissions standards by using the performance test methods and procedures in § 63.1349(b)(3). The owner or operator of a kiln with an in-line raw mill must demonstrate initial compliance by conducting separate performance tests while the raw mill is operating and the raw mill is not operating. The D/F concentration must be determined for each run and the arithmetic average of the concentrations measured for the three runs must be calculated to determine compliance.

(ii) If you are subject to a D/F emission limitation under § 63.1343(b), you must demonstrate initial compliance with the temperature operating limits specified in § 63.1344 by using the performance test methods and procedures in § 63.1349(b)(3)(ii) through (b)(3)(iv). The average of the run temperatures will determine the applicable temperature limit.

(iii) If activated carbon injection is used and you are subject to a D/F emission limitation under § 63.1343(b), you must demonstrate initial compliance with the activated carbon injection rate operating limits specified in § 63.1344 by using the performance test methods and procedures in § 63.1349(b)(3)(v). The average of the run injection rates will determine the applicable injection rate limit.

(iv) If activated carbon injection is used, you must also develop a carrier gas parameter during the performance test conducted under § 63.1349(b)(3) that meets the requirements of § 63.1349(b)(3)(vi). Compliance is demonstrated if the system is maintained within ± 5 percent accuracy during the performance test.

(4)(i) *THC compliance.* If you are subject to limitations on THC emissions under § 63.1343(b), you must demonstrate initial compliance with the THC emissions standards by using the performance test methods and procedures in § 63.1349(b)(4)(i). The average THC concentration obtained during the first 30 operating days must be used to determine initial compliance.

(ii) *Total organic HAP emissions tests.* If you elect to demonstrate compliance with the total organic HAP emissions limit under § 63.1343(b) in lieu of the THC emissions limit, you must demonstrate initial compliance with the total organic HAP emissions standards by using the performance test methods and procedures in § 63.1349(b)(4)(iii) and (b)(4)(iv).

(iii) If you are demonstrating initial compliance, you must conduct the separate performance tests as specified in § 63.1349(b)(4)(iii) while the raw mill kiln is operating and while the raw mill of the kiln is not operating.

(iv) The average total organic HAP concentration measured during the initial performance test specified by § 63.1349(b)(4)(iii) must be used to determine initial compliance.

(v) The average THC concentration measured during the initial performance test specified by § 63.1349(b)(4)(iv) must be used to determine the site-specific THC limit. This limit should be a weighted average of the THC levels measured during raw mill on and raw mill off testing.

(5) *Mercury compliance.* If you are subject to limitations on mercury emissions in § 63.1343(b), you must demonstrate initial compliance with the mercury standards by using the performance test methods and procedures in § 63.1349(b)(5). You must demonstrate initial compliance by operating a mercury CEMS or a sorbent trap based integrated monitor. The first 30 operating days of daily mercury concentration data must be used to determine initial compliance.

(6) *HCl compliance.* If you are subject to limitations on HCl emissions under § 63.1343(b), you must demonstrate initial compliance with the HCl standards by using the performance test methods and procedures in § 63.1349(b)(6).

(i) For an affected source that is equipped with a wet scrubber or tray tower, you must demonstrate initial compliance by conducting a performance test as specified in § 63.1349(b)(6)(i). The HCl concentration must be determined for each run and the arithmetic average of the concentrations measured for the three runs must be calculated to determine compliance. You must also have established appropriate site-specific parameter limits.

(ii) For an affected source that is not equipped with a wet scrubber or tray tower, you must demonstrate initial compliance by operating a CEMS as specified in § 63.1349(b)(6)(ii). The average hourly HCl concentration obtained during the first 30 operating days must be used to determine initial compliance.

(b) *Continuous compliance requirements.* You must demonstrate continuous compliance with the emissions standards and operating limits by using the performance test methods and procedures in §§ 63.1350 and 63.8 for each affected source.

(1) *General requirements.*

(i) You must monitor and collect data according to § 63.1350 and the site-specific monitoring plan required by § 63.1350(o).

(ii) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), you must operate the monitoring system and collect data at all required intervals at all times the affected source is operating. Any period for which data collection is required and the operation of the CEMS is not otherwise exempt and for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(iii) You may not use data recorded during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The owner or operator must use all the data collected during all other periods in assessing the operation of the control device and associated control system

(iv) *Clinker production.* If you are subject to limitations on PM emissions (lb/ton of clinker) or mercury (lb/MM tons of clinker) under § 63.1343(b), you must demonstrate continuous compliance with the PM emissions standards by determining the hourly production rate of clinker according to the requirements of § 63.1350(d).

(2) *PM compliance.* If you are subject to limitations on PM emissions under § 63.1343(b), you must demonstrate continuous compliance with the PM emissions standards by using the monitoring methods and procedures in § 63.1350(b) and (d).

(i) *PM CEMS.* You must demonstrate continuous compliance with the PM emissions standards by using the monitoring methods and procedures in § 63.1350(b) for each affected source subject to PM emissions limitations. Continuous compliance is demonstrated by a 30-day rolling average PM emissions in lb/ton clinker, except for periods of startup and shutdown, where the compliance is demonstrated based on a 7-day rolling average.

(3) *Opacity compliance.* If you are subject to the limitations on opacity under § 63.1345, you must demonstrate continuous compliance with the opacity emissions standards by using the monitoring methods and procedures in § 63.1350(f).

(i) Continuous compliance is demonstrated by conducting specified visible emissions observations and follow up opacity readings, as indicated in § 63.1350(f)(1) and (f)(2). The maximum 6-minute average opacity exhibited during the performance test period must be used to determine whether the affected source is in compliance with the standard. Corrective actions must be initiated within one hour of detecting visible emissions.

(ii) *COMS.* If you install a COMS in lieu of conducting the daily visible emissions testing, you must demonstrate continuous compliance by operating and maintaining the COMS such that it meets the requirements of § 63.1350(f)(4)(i).

(iii) *BLDS.* If you install a BLDS on a raw mill or finish mill in lieu of conducting the daily visible emissions testing, you must demonstrate continuous compliance by operating and maintaining the BLDS such that it meets the requirements of § 63.1350(f)(4)(ii).

(4) *D/F compliance.* If you are subject to a D/F emission limitation under § 63.1343(b), you must demonstrate continuous compliance with the temperature operating limits specified in § 63.1346 by using the installing, operating, and maintaining a continuous monitor to record the temperature of specified gas streams such that it meets the requirements of § 63.1350(g). Continuous compliance is demonstrated by a 3-hour rolling average temperature.

(5)(i) *Activated carbon injection compliance.* If activated carbon injection is used and you are subject to a D/F emission limitation under § 63.1343(b), you must demonstrate continuous compliance with the activated carbon injection rate operating limits specified in § 63.1346 by installing, operating, and maintaining a continuous monitor to record the rate of activated carbon injection that meets the requirements of § 63.1350(h)(1). Continuous compliance is demonstrated by a 3-hour rolling average injection rate.

(ii) If you are subject to a D/F emission limitation under § 63.1343(b), you must demonstrate continuous compliance with the activated carbon injection system gas parameter by installing, operating, and maintaining a continuous monitor to record the gas parameter that meets the requirements of § 63.1350(h)(2). Continuous compliance is demonstrated by a 3-hour rolling average of the parameter value.

(6) THC compliance. If you are subject to limitations on THC emissions under § 63.1343(b), you must demonstrate continuous compliance with the THC emissions standards by using the monitoring methods and procedures in § 63.1350 (i) and (j). Continuous compliance is demonstrated by a 30-day rolling average THC concentration, except for periods of startup and shutdown, where the standard is based on a 7-day rolling average.

(7) Mercury compliance. If you are subject to limitations on mercury emissions in § 63.1343(b), you must demonstrate continuous compliance with the mercury standards by using the monitoring methods and procedures in § 63.1350(k). Continuous compliance is demonstrated by a 30-day rolling average mercury emission rate in lb/MM tons clinker, except for periods of startup and shutdown, where the standard is based on a 7-day rolling average mercury concentration.

(8) *HCl compliance.* If you are subject to limitations on HCl emissions under § 63.1343(b), you must demonstrate continuous compliance with the HCl standards by using the performance test methods and procedures in § 63.1349(b)(6).

(i) For an affected source that is not equipped with a wet scrubber or tray tower, you must demonstrate continuous compliance by using the monitoring methods and procedures in § 63.1350(l)(1). Continuous compliance is demonstrated by a 30-day rolling average HCl concentration, except for periods of startup and shutdown, where the standard is based on a 7-day rolling average.

(ii) For an affected source that is equipped with a wet scrubber or tray tower, you must demonstrate continuous compliance by using the monitoring methods and procedures in § 63.1350(l)(2). Continuous compliance is demonstrated by a 30-day rolling average of the required parameters, except for periods of startup and shutdown, where the standard is based on a 7-day rolling average.

(c) *Changes in operations.*

(1) If you plan to undertake a change in operations that may adversely affect compliance with an applicable standard, operating limit, or parametric monitoring value under this subpart, the source must conduct a performance test as specified in § 63.1349(b).

(2) In preparation for and while conducting a performance test required in § 63.1349(b), you may operate under the planned operational change conditions for a period not to exceed 360 hours, provided that the conditions in (c)(2)(i) through (c)(2)(iv) of this section are met. You must submit temperature and other monitoring data that are recorded during the pretest operations.

(i) You must provide the Administrator written notice at least 60 days prior to undertaking an operational change that may adversely affect compliance with an applicable standard under this subpart for any source, or as soon as practicable where 60 days advance notice is not feasible. Notice provided under this paragraph must include a description of the planned change, the emissions standards that may be affected by the change, and a schedule for completion of the performance test required under paragraph (c)(1) of this section,

including when the planned operational change period would begin.

(ii) The performance test results must be documented in a test report according to § 63.1349(a).

(iii) A test plan must be made available to the Administrator prior to performance testing, if requested.

(iv) The performance test must be conducted completed within 360 hours after the planned operational change period begins.

(d) *General duty to minimize emissions.* At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

■ 19. Section 63.1349 is revised to read as follows:

§ 63.1349 Performance testing requirements.

(a) Performance test results must be documented in complete test reports that contain the information required by paragraphs (a)(1) through (a)(10) of this section, as well as all other relevant information. As described in § 63.7(c)(2)(i), the site-specific plan to be followed during performance testing must be made available to the Administrator prior to testing, if requested.

(1) A brief description of the process and the air pollution control system;

(2) Sampling location description(s);

(3) A description of sampling and analytical procedures and any modifications to standard procedures;

(4) Test results;

(5) Quality assurance procedures and results;

(6) Records of operating conditions during the performance test, preparation of standards, and calibration procedures;

(7) Raw data sheets for field sampling and field and laboratory analyses;

(8) Documentation of calculations;

(9) All data recorded and used to establish parameters for monitoring; and

(10) Any other information required by the performance test method.

(b)(1) *PM emissions tests.*

(i)(A) If you are subject to the limitations on emissions of PM, you must install, operate, calibrate, and maintain a PM CEMS in accordance with the requirements in § 63.1350(b).

(B) You must determine, record, and maintain a record of the accuracy of the volumetric flow rate monitoring system according to the procedures in § 63.1350(m)(5).

(C) The initial compliance test must be based on the first 30 operating days in which the affected source operates using a CEMS. Hourly PM concentration and stack gas volumetric flow rate data must be obtained.

(ii) You must determine the clinker production rate using the methods in § 63.1350(d).

(iii) The emission rate, E, of PM (lb/ton of clinker) must be computed for each run using equation 3 of this section:

$$E = (C_S Q_S)/(PK) \qquad \text{(Eq. 3)}$$

Where:

E = emission rate of particulate matter, lb/ton of clinker production;

C_s = concentration of particulate matter, gr/scf;

Q_s = volumetric flow rate of effluent gas, where C_s and Q_s are on the same basis (either wet or dry), scf/hr;

P = total kiln clinker production rate, ton/hr; and

K = conversion factor, 7000 gr/lb.

(iv) When there is an alkali bypass associated with a kiln, the main exhaust and alkali bypass of the kiln must be tested simultaneously and the combined emission rate of particulate matter from the kiln and alkali bypass must be computed for each computed for each run using equation 4 of this section:

$$E_c = \frac{[(C_{sk} Q_{sk}) + (C_{sb} Q_{sb})]}{K P} \qquad \text{(Eq. 4)}$$

Where:

E_c = combined emission rate of particulate matter from the kiln or in-line kiln/raw mill and bypass stack, lb/ton of kiln clinker production;

C_{sk} = concentration of particulate matter in the kiln or in-line kiln/raw mill effluent gas, gr/scf;

Q_{sk} = volumetric flow rate of kiln or in-line kiln/raw mill effluent gas, where C_{sk} and Q_{sk} are on the same basis (either wet or dry), scf/hr;

C_{sb} = concentration of particulate matter in the alkali bypass gas, gr/scf;

Q_{sb} = volumetric flow rate of alkali bypass effluent gas, where C_{sb} and Q_{sb} are on the same basis (either wet or dry), scf/hr;

P = total kiln clinker production rate, ton/hr; and

K = conversion factor, 1000 g/kg (7000 gr/lb).

(2) *Opacity tests.* If you are subject to limitations on opacity under this subpart, you must conduct opacity tests in accordance with Method 9 of appendix A–4 to part 60 of this chapter. The duration of the Method 9 performance test must be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) through (b)(2)(ii) of this section apply. For batch processes that are not run for 3-hour periods or longer, compile observations totaling 3 hours when the unit is operating.

(i) There are no individual readings greater than 10 percent opacity;

(ii) There are no more than three readings of 10 percent for the first 1-hour period.

(3) *D/F emissions tests.* If you are subject to limitations on D/F emissions under this subpart, you must conduct a performance test using Method 23 of appendix A–7 to part 60 of this chapter. The owner or operator of a kiln or in-line kiln/raw mill equipped with an alkali bypass must conduct simultaneous performance tests of the kiln or in-line kiln/raw mill exhaust and the alkali bypass. However, the owner or operator of an in-line kiln/raw mill may conduct a performance test of the alkali bypass exhaust when the raw mill of the in-line kiln/raw mill is operating or not operating.

(i) Each performance test must consist of three separate runs conducted under representative conditions. The duration of each run must be at least 3 hours, and the sample volume for each run must be at least 2.5 dscm (90 dscf).

(ii) The temperature at the inlet to the kiln or in-line kiln/raw mill PMCD, and, where applicable, the temperature at the inlet to the alkali bypass PMCD must be continuously recorded during the period of the Method 23 test, and the continuous temperature record(s) must be included in the performance test report.

(iii) Hourly average temperatures must be calculated for each run of the performance test.

(iv) The run average temperature must be calculated for each run, and the average of the run average temperatures must be determined and included in the performance test report and will determine the applicable temperature limit in accordance with § 63.1344(b).

(v)(A) If sorbent injection is used for D/F control, the rate of sorbent injection to the kiln or in-line kiln/raw mill exhaust, and where applicable, the rate of sorbent injection to the alkali bypass exhaust, must be continuously recorded during the period of the Method 23 test in accordance with the conditions in § 63.1350(m)(9), and the continuous injection rate record(s) must be included

in the performance test report. Sorbent injection rate parameters must be determined in accordance with paragraphs (b)(3)(vi) of this section.

(B) The performance test report must include the brand and type of sorbent used during the performance test.

(C) The owner or operator must maintain a continuous record of either the carrier gas flow rate or the carrier gas pressure drop for the duration of the performance test. If the carrier gas flow rate is used, the owner or operator must determine, record, and maintain a record of the accuracy of the carrier gas flow rate monitoring system according to the procedures in appendix A to part 75 of this chapter. If the carrier gas pressure drop is used, the owner or operator must determine, record, and maintain a record of the accuracy of the carrier gas pressure drop monitoring system according to the procedures in § 63.1350(m)(6).

(vi) The run average sorbent injection rate must be calculated for each run and the average of the run average injection rates must be determined and included in the performance test report and will determine the applicable injection rate limit in accordance with § 63.1344(c)(1).

(4)(i) *THC CEMS relative accuracy test.*

(A) If you are subject to limitations on THC emissions, you must operate a continuous emissions monitoring system (CEMS) in accordance with the requirements in § 63.1350(1). For the purposes of conducting the accuracy and quality assurance evaluations for CEMS, the THC span value (as propane) is 50 ppmvd. You demonstrate compliance with a RATA when the accuracy between the CEMS and the test audit is within 20 percent or when the test audit results are within 10 percent of the standard

(B) The initial compliance test must be based on the first 30 operating days of operation in which the affected source operates using a CEMS.

(ii) *Total organic HAP emissions tests.* Instead of conducting the performance test specified in paragraph (b)(4)(i) of this section, you may conduct a performance test to determine emissions of total organic HAP by following the procedures in paragraphs (b)(4)(iii) through (b)(4)(iv) of this section.

(iii) Method 320 of appendix A to this part or ASTM D6348–03 (incorporated by reference—*See* § 63.14) must be used to determine emissions of total organic HAP. Each performance test must consist of three separate runs under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with § 63.7(e). Each run must be conducted for at least 1 hour.

(iv) At the same time that you are conducting the performance test for total organic HAP, you must also determine THC emissions by operating a CEMS in accordance with the requirements of § 63.1350(j). The duration of the performance test must be 3 hours and the average THC concentration (as calculated from the 1-minute averages) during the 3-hour test must be calculated.

(5) *Mercury emissions tests.* If you are subject to limitations on mercury emissions, you must operate a mercury CEMS in accordance with the requirements of § 63.1350(k). The initial compliance test must be based on the first 30 operating days in which the affected source operates using a CEMS. Hourly mercury concentration and stack gas volumetric flow rate data must be obtained. If you use a sorbent trap monitoring system, daily data must be obtained with each day assumed to equal the daily average of the sorbent trap collection period covering that day.

(i) If you are using a mercury CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in § 63.1350(k)(4).

(ii) The emission rate must be computed by dividing the average mercury emission rate by the clinker production rate during the same 30-day rolling period using the equation 5 of this section:

$$E = (C_s Q_s)/(PK) \qquad \text{(Eq. 5)}$$

Where:

E = emission rate of mercury, lb/million tons of clinker production;

C_s = concentration of mercury, g/scm;

Q_s = volumetric flow rate of effluent gas, where C_s and Q_s are on the same basis (wet or dry), scm/hr;

P = total kiln clinker production rate, million ton/hr; and

K = conversion factor, 1000 g/kg (454 g/lb).

(6) *HCl emissions tests.* For a source subject to limitations on HCl emissions you must conduct performance testing by one of the following methods:

(i)(A) If the source is equipped with a wet scrubber, or tray tower, you must conduct performance testing using Method 321 of appendix A to this part unless you have installed a CEMS that meets the requirements § 63.1350(l)(1) .

(B) You must establish site specific parameter limits by using the CPMS required in§ 63.1350(l)(1). Measure and record the pressure drop across the scrubber and/or liquid flow rate and pH in intervals of no more than 15 minutes during the HCl test. Compute and record the 24-hour average pressure drop, pH, and average scrubber water flow rate for each sampling run in which the applicable emissions limit is met.

(ii)(A) If the source is not controlled by a wet scrubber, you must operate a CEMS in accordance with the requirements of § 63.1350(l)(1). The initial performance test must be the first 30 operating days you use the CEMS.

(B) The initial compliance test must be based on the 30 operating days in which the affected source operates using a CEMS. Hourly HCl concentration and stack gas volumetric flow rate data must be obtained.

(c) *Performance test frequency.* Except as provided in § 63.1348(b), performance tests are required for affected sources that are subject to a dioxin, total organic HAP, or HCl, emissions limit and must be repeated every 30 months except for pollutants where that specific pollutant is monitored using CEMS.

(d) *Performance test reporting requirements.*

(1) You must submit the information specified in paragraphs (d)(1)(i) and (d)(2) of this section no later than 60 days following the initial performance test. All reports must be signed by the facility's manager.

(i) The initial performance test data as recorded under paragraph (b) of this section.

(ii) The values for the site-specific operating limits or parameters established pursuant to paragraphs (b)(3), (b)(4)(iii), (b)(5)(ii), and (b)(6)(i) of this section, as applicable, and a description, including sample calculations, of how the operating parameters were established during the initial performance test.

(2) As of December 31, 2011 and within 60 days after the date of completing each performance evaluation or test, as defined in § 63.2, conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and performance test data, except opacity data, to EPA by successfully submitting the data electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool(ERT) (*see http://www.epa.gov/ttn/chief/ert/ert_tool.html/*).

(e) Performance tests must be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, you must make available to the Administrator such records as may be

necessary to determine the conditions of performance tests.

20. Section 63.1350 is revised to read as follows:

§ 63.1350 Monitoring requirements.

(a) All continuous monitoring data for periods of startup and shutdown must be compiled and averaged separately from data gathered during periods of normal operation.

(b) *PM monitoring requirements for sources using PM CEMS.*

(1) For a kiln or clinker cooler subject to emissions limitation on particulate matter emissions in § 63.1343(b) and using a PM CEMS, you must install and operate a continuous emissions monitor in accordance with Performance Specification 11 of appendix B and Procedure 2 of appendix F to part 60 of this chapter. The performance test method and the correlation test method for Performance Specification 11 must be Method 5 or Method 5i of appendix A to Part 60 of this chapter. You must also develop an emissions monitoring plan in accordance with paragraphs (o)(1) through (o)(4) of this section.

(2) You must perform Relative Response Audits annually and Response Correlation Audits every 3 years.

(3) If you are using a PM CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in paragraphs (n)(1) through (n)(10) of this section.

(4) In order to calculate the 30-day or 7-day rolling average, collect readings at least every 15 minutes. Sum the hourly data to daily data and then into a 30-day rolling average. You must use all data, except those recorded during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities, in calculations.

(c) [Reserved]

(d) *Clinker production monitoring requirements.* If you are subject to an emissions limitation on particulate matter, mercury, NO_X, or SO_2 emissions (lb/ton of clinker), you must:

(1) Determine hourly clinker production by one of two methods:

(i) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of clinker produced. The system of measuring hourly clinker production must be maintained within ±5 percent accuracy.

(ii) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of feed to the kiln. The system of measuring feed must be maintained within ±5 percent accuracy. Calculate your hourly clinker production rate using a kiln specific feed to clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. This ratio must be updated monthly. Note that if this ratio changes at clinker reconciliation, you must use the new ratio going forward, but you do not have to retroactively change clinker production rates previously estimated.

(2) Determine, record, and maintain a record of the accuracy of the system of measuring hourly clinker production (or feed mass flow if applicable) before initial use (for new sources) or within 30 days of the effective date of this rule (for existing sources). During each quarter of source operation, you must determine, record, and maintain a record of the ongoing accuracy of the system of measuring hourly clinker production (or feed mass flow).

(3) Record the daily clinker production rates and kiln feed rates; and

(4) Develop an emissions monitoring plan in accordance with paragraphs (o)(1) through (o)(4) of this section.

(e) [Reserved]

(f) *Opacity monitoring requirements.* If you are subject to a limitation on opacity under § 63.1345, you must conduct required emissions monitoring in accordance with the provisions of paragraphs (f)(1)(i) through (f)(1)(vii) of this section and in accordance with the operation and maintenance plan developed in accordance with § 63.1347. You must conduct emissions monitoring in accordance with paragraphs (f)(2)(i) through (f)(2)(iii) of this section and in accordance with the operation and maintenance plan developed in accordance with (p)(1) through (p)(4) of this section. You must also develop an opacity emissions monitoring plan in accordance with paragraphs (o)(1) through (o)(4) and paragraph (o)(5), if applicable, of this section.

(1)(i) You must conduct a monthly 10-minute visible emissions test of each affected source in accordance with Method 22 of appendix A–7 to part 60 of this chapter. The performance test must be conducted while the affected source is in operation.

(ii) If no visible emissions are observed in six consecutive monthly tests for any affected source, the owner or operator may decrease the frequency of performance testing from monthly to semi-annually for that affected source. If visible emissions are observed during any semi-annual test, you must resume performance testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

(iii) If no visible emissions are observed during the semi-annual test for any affected source, you may decrease the frequency of performance testing from semi-annually to annually for that affected source. If visible emissions are observed during any annual performance test, the owner or operator must resume performance testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

(iv) If visible emissions are observed during any Method 22 performance test, of appendix A–7 to part 60 of this chapter, you must conduct five 6-minute averages of opacity in accordance with Method 9 of appendix A–4 to part 60 of this chapter. The Method 9 performance test, of appendix A–4 to part 60 of this chapter, must begin within 1 hour of any observation of visible emissions.

(v) The requirement to conduct Method 22 visible emissions monitoring under this paragraph do not apply to any totally enclosed conveying system transfer point, regardless of the location of the transfer point. "Totally enclosed conveying system transfer point" must mean a conveying system transfer point that is enclosed on all sides, top, and bottom. The enclosures for these transfer points must be operated and maintained as total enclosures on a continuing basis in accordance with the facility operations and maintenance plan.

(vi) If any partially enclosed or unenclosed conveying system transfer point is located in a building, you must have the option to conduct a Method 22 performance test, of appendix A–7 to part 60 of this chapter, according to the requirements of paragraphs (f)(1)(i) through (f)(1)(iv) of this section for each such conveying system transfer point located within the building, or for the building itself, according to paragraph (f)(1)(vii) of this section.

(vii) If visible emissions from a building are monitored, the requirements of paragraphs (f)(1)(i) through (f)(1)(iv) of this section apply to the monitoring of the building, and you must also test visible emissions from each side, roof, and vent of the building for at least 10 minutes.

(2)(i) For a raw mill or finish mill, you must monitor opacity by conducting daily visual emissions observations of the mill sweep and air separator

particulate matter control devices (PMCD) of these affected sources in accordance with the procedures of Method 22 of appendix A–7 to part 60 of this chapter. The duration of the Method 22 performance test must be 6 minutes.

(ii) Within 24 hours of the end of the Method 22 performance test in which visible emissions were observed, the owner or operator must conduct a follow up Method 22 performance test of each stack from which visible emissions were observed during the previous Method 22 performance test.

(iii) If visible emissions are observed during the follow-up Method 22 performance test required by paragraph (a)(5)(ii) of this section from any stack from which visible emissions were observed during the previous Method 22 performance test required by paragraph (a)(5)(i) of the section, you must conduct a visual opacity test of each stack from which emissions were observed during the follow up Method 22 performance test in accordance with Method 9 of appendix A–4 to part 60 of this chapter. The duration of the Method 9 test must be 30 minutes.

(3) *Corrective actions.* If visible emissions are observed during any Method 22 visible emissions test conducted under paragraphs (f)(1) or (f)(2) of this section, you must initiate, within one-hour, the corrective actions specified in the site specific operating and maintenance plan provisions in § 63.1347.

(4) The requirements under paragraph (f)(2) of this section to conduct daily Method 22 testing do not apply to any specific raw mill or finish mill equipped with a continuous opacity monitoring system (COMS) or bag leak detection system (BLDS).

(i) If the owner or operator chooses to install a COMS in lieu of conducting the daily visual emissions testing required under paragraph (f)(2) of this section, then the COMS must be installed at the outlet of the PM control device of the raw mill or finish mill and the COMS must be installed, maintained, calibrated, and operated as required by the general provisions in subpart A of this part and according to PS–1 of appendix B to part 60 of this chapter.

(ii) If you choose to install a BLDS in lieu of conducting the daily visual emissions testing required under paragraph (f)(2) of this section, the requirements in paragraphs (m)(1) through (m)(4), (m)(10) and (m)(11) of this section apply.

(g) *D/F monitoring requirements.* If you are subject to an emissions limitation on D/F emissions, you must comply with the monitoring requirements of paragraphs (g)(1) through (g)(6) and paragraphs (m)(1) through (m)(4) of this section to demonstrate continuous compliance with the D/F emissions standard. You must also develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (p)(4) of this section.

(1) You must install, calibrate, maintain, and continuously operate a continuous monitor to record the temperature of the exhaust gases from the kiln, in-line kiln/raw mill, and alkali bypass, if applicable, at the inlet to, or upstream of, the kiln, in-line kiln/raw mill and/or alkali bypass PMCDs.

(i) The temperature recorder response range must include zero and 1.5 times the average temperature established according to the requirements in § 63.1349(b)(3)(iv).

(ii) The calibration reference for the temperature measurement must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator.

(iii) The calibration of all thermocouples and other temperature sensors must be verified at least once every three months.

(2) You must monitor and continuously record the temperature of the exhaust gases from the kiln, in-line kiln/raw mill, and alkali bypass, if applicable, at the inlet to the kiln, in-line kiln/raw mill and/or alkali bypass PMCD.

(3) The required minimum data collection frequency must be one minute.

(4) Each hour, calculate the three-hour average temperature for the previous 3 hours of process operation using all of the one-minute data available (*i.e.*, the CMS is not out-of-control.)

(5) When the operating status of the raw mill of the in-line kiln/raw mill is changed from off to on or from on to off, the calculation of the three-hour rolling average temperature must begin anew, without considering previous recordings.

(h) *Monitoring requirements for sources using sorbent injection.* If you are subject to an operating limit on D/F emissions that employs carbon injection as an emission control technique, you must comply with the additional monitoring requirements of paragraphs (h)(1) and (h)(2) and paragraphs (m)(1) through (m)(4) and (m)(9) of this section. You must also develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (p)(4) of this section.

(1) Install, operate, calibrate, and maintain a continuous monitor to record the rate of activated carbon injection. The accuracy of the rate measurement device must be ±1 percent of the rate being measured.

(i) Verify the calibration of the device at least once every three months.

(ii) Each hour, calculate the three-hour rolling average activated carbon injection rate for the previous 3 hours of process operation using all of the one-minute data available (*i.e.*, the CMS is not out-of-control.)

(iii) When the operating status of the raw mill of the in-line kiln/raw mill is changed from off to on or from on to off, the calculation of the three-hour rolling average activated carbon injection rate must begin anew, without considering previous recordings.

(2)(i) Install, operate, calibrate, and maintain a continuous monitor to record the activated carbon injection system carrier gas parameter (either the carrier gas flow rate or the carrier gas pressure drop) established during the D/F performance test in accordance with § 63.1349(b)(3).

(ii) Each hour, calculate the three-hour rolling average of the selected parameter value for the previous 3 hours of process operation using all of the one-minute data available (*i.e.*, the CMS is not out-of-control.)

(i) *THC Monitoring Requirements.* If you are subject to an emissions limitation on THC emissions, you must comply with the monitoring requirements of paragraphs (i)(1) and (i)(2) and (m)(1) through (m)(4) of this section. You must also develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (p)(4) of this section.

(1) You must install, operate, and maintain a THC continuous emission monitoring system in accordance with Performance Specification 8 of appendix B to part 60 of this chapter and comply with all of the requirements for continuous monitoring systems found in the general provisions, subpart A of this part. The owner or operator must operate and maintain each CEMS according to the quality assurance requirements in Procedure 1 of appendix F in part 60 of this chapter.

(2) For sources equipped with an alkali bypass stack, instead of installing a CEMS, you may use the results of the initial or subsequent performance test to demonstrate compliance with the THC emission limit.

(j) *Total organic HAP monitoring requirements.* If you are complying with the total organic HAP emissions limits, you must continuously monitor THC according to paragraph (i)(1) and (2) or

in accordance with Performance Specification 15 of appendix B to part 60 of this chapter and comply with all of the requirements for continuous monitoring systems found in the general provisions, subpart A of this part. You must operate and maintain each CEMS according to the quality assurance requirements in Procedure 1 of appendix F in part 60 of this chapter. In addition, your must follow the monitoring requirements in paragraphs (m)(1) through (m)(4) of this section. You must also develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (p)(4) of this section.

(k) *Mercury monitoring requirements.* If you have a kiln or in-line kiln/raw mill subject to an emissions limitation on mercury emissions, you must install and operate a mercury continuous emissions monitoring system (Hg CEMS) in accordance with Performance Specification 12A of appendix B to part 60 of this chapter or a sorbent trap-based integrated monitoring system in accordance with Performance Specification 12B of appendix B to part 60 of this chapter. You must continuously monitor mercury according to paragraphs (k)(1) through (k)(3) and (m)(1) through (m)(4) of this section. You must also develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (p)(4) of this section.

(1) The span value for any Hg CEMS must include the intended upper limit of the mercury concentration measurement range during normal "mill on" operation which may be exceeded during "mill off" operation or other short term conditions lasting less than 24 consecutive kiln operating hours. However, the span should be at least equivalent to approximately two times the emissions standard and it may be rounded to the nearest multiple of 10 $\mu g/m^3$ of total mercury.

(2) You must operate and maintain each Hg CEMS or sorbent trap-based integrated monitoring system according to the quality assurance requirements in Procedure 5 of appendix F to part 60 of this chapter.

(3) Relative accuracy testing of mercury monitoring systems under Performance Specification 12A, Performance Specification 12B, or Procedure 5 must be at normal operating conditions with the raw mill on.

(4) If you use a mercury CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in paragraphs (n)(1) through (n)(10) of this section.

(l) *HCl Monitoring Requirements.* If you are subject to an emissions limitation on HCl emissions in § 63.1343, you must continuously monitor HCl according to paragraph (l)(1) and (2) and paragraphs (m)(1) through (m)(4) of this section. You must also develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (p)(4) of this section.

(1) Continuously monitor compliance with the HCl limit by operating a continuous emission monitor in accordance with Performance Specification 15 of appendix B to part 60 of this chapter. You must operate and maintain each CEMS according to the quality assurance requirements in Procedure 1 of 40 CFR of appendix F to part 60 of this chapter except that the Relative Accuracy Test Audit requirements of Procedure 1 must be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of Performance Specification 15, or

(2) Install, operate, and maintain a CMS to monitor wet scrubber parameters as specified in paragraphs (m)(5) and (m)(7) of this section.

(m) *Parameter monitoring requirements.* 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 (n)(1) through (4) of this section by the compliance date specified in § 63.1351. You must also meet the applicable specific parameter monitoring requirements in paragraphs (m)(5) through (m)(11) that are applicable to you.

(1) The CMS 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) You must conduct all monitoring in continuous operation at all times that the unit is operating.

(3) Determine the 3-hour block average of all recorded readings.

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

(5) *Liquid flow rate monitoring requirements.* If you have an operating limit that requires the use of a flow measurement device, you must meet the requirements in paragraphs (m)(5)(i) through (iv) of this section.

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

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

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

(iv) Conduct a flow sensor calibration check at least semiannually.

(6) *Specific pressure monitoring requirements.* If you have an operating limit that requires the use of a pressure measurement device, you must meet the requirements in paragraphs (m)(6)(i) through (vi) of this section.

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

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

(iii) 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.

(iv) Check pressure tap pluggage daily.

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

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

(7) *Specific pH monitoring requirements.* If you have an operating limit that requires the use of a pH measurement device, you must meet the requirements in paragraphs (m)(7)(i) through (iii) of this section.

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

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

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

(8) [Reserved]

(9) *Mass flow rate (for sorbent injection) monitoring requirements.* 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 (m)(9)(i) through (iii) of this section.

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

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

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

(10) *Bag leak detection monitoring requirements.* 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 (m)(10)(i) through (viii) of this section.

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

(ii) 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.

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

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

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

(vi) The bag leak detection system must be equipped with an alarm system that will alert an operator automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located such that the alert is detected and recognized easily by an operator.

(vii) 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.

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

(11) For each BLDS, the owner or operator must initiate procedures to determine the cause of every alarm within 8 hours of the alarm. The owner or operator must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

(n) *Continuous emissions rate monitoring system.* You must install, operate, calibrate, and maintain instruments, according to the requirements in paragraphs (n)(1) and (2) of this section, for continuously measuring and recording the pollutant per mass flow rate to the atmosphere from sources subject to an emissions limitation that has a pounds per ton of clinker unit.

(1) You must install each sensor of the flow rate monitoring system in a location that provides representative measurement of the exhaust gas flow rate at the sampling location of the mercury or PM CEMS, taking into account the manufacturer's recommendations. The flow rate sensor is that portion of the system that senses the volumetric flow rate and generates an output proportional to that flow rate.

(2) The flow rate monitoring system must be designed to measure the exhaust flow rate over a range that extends from a value of at least 20 percent less than the lowest expected exhaust flow rate to a value of at least 20 percent greater than the highest expected exhaust flow rate.

(3) The flow rate monitoring system must have a minimum accuracy of 5 percent of the flow rate or greater.

(4) The flow rate monitoring system must be equipped with a data acquisition and recording system that is capable of recording values over the entire range specified in paragraph (n)(1) of this section.

(5) The signal conditioner, wiring, power supply, and data acquisition and recording system for the flow rate monitoring system must be compatible with the output signal of the flow rate sensors used in the monitoring system.

(6) The flow rate monitoring system must be designed to complete a minimum of one cycle of operation for each successive 15-minute period.

(7) The flow rate sensor must have provisions to determine the daily zero and upscale calibration drift (CD) (*see* sections 3.1 and 8.3 of Performance Specification 2 in appendix B to Part 60 of this chapter for a discussion of CD).

(i) Conduct the CD tests at two reference signal levels, zero (*e.g.*, 0 to 20 percent of span) and upscale (*e.g.*, 50 to 70 percent of span).

(ii) The absolute value of the difference between the flow monitor response and the reference signal must be equal to or less than 3 percent of the flow monitor span.

(8) You must perform an initial relative accuracy test of the flow rate monitoring system according to Section 8.2 of Performance Specification 6 of appendix B to Part 60 of the chapter with the exceptions in paragraphs (n)(8)(i) and (n)(8)(ii) of this section.

(i) The relative accuracy test is to evaluate the flow rate monitoring system alone rather than a continuous emission rate monitoring system.

(ii) The relative accuracy of the flow rate monitoring system shall be no greater than 10 percent of the mean value of the reference method data.

(9) You must verify the accuracy of the flow rate monitoring system at least once per year by repeating the relative accuracy test specified in paragraph (n)(8).

(10) You must operate the flow rate monitoring system and record data during all periods of operation of the affected facility including periods of startup, shutdown, and malfunction, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments).

(o) *Alternate monitoring requirements approval.* You may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the emission standards of this subpart, except for emission standards for THC, subject to the provisions of paragraphs (n)(1) through (n)(6) of this section.

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

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

(3) You must submit the application for approval of alternate monitoring requirements no later than the notification of performance test. The

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

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

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

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

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

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

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

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

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

(p) *Development and submittal (upon request) of monitoring plans.* If you demonstrate compliance with any applicable emission limit through performance stack testing or other emissions monitoring, you must develop a site-specific monitoring plan according to the requirements in paragraphs (p)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under paragraph (n) of this section and § 63.8(f). If you use a BLDS, you must also meet the requirements specified in paragraph (o)(5) of this section.

(1) For each continuous monitoring system (CMS) required in this section, you must develop, and submit to the permitting authority for approval upon request, a site-specific monitoring plan that addresses paragraphs (o)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected 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 (o)(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.

(5) *BLDS monitoring plan.* Each monitoring plan must describe the items in paragraphs (o)(5)(i) through (v) of this section. At a minimum, you must retain records related to the site-specific monitoring plan and information discussed in paragraphs (m)(1) through (4), (m)(10) and (m)(11) of this section for a period of 5 years, with at least the first 2 years on-site;

(i) Installation of the BLDS;

(ii) Initial and periodic adjustment of the BLDS, including how the alarm set-point will be established;

(iii) Operation of the BLDS, including quality assurance procedures;

(iv) How the BLDS will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the BLDS output will be recorded and stored.

■ 21. Section 63.1351 is revised to read as follows:

§ 63.1351 Compliance dates.

(a) Except as noted in paragraph (b) of this section, the compliance date for an owner or operator of an existing affected source subject to the provisions of this subpart is June 14, 2002.

(b) The compliance date for existing sources with the PM, mercury, THC, and HCl emissions limits in § 63.1343(b) which became effective in November 8, 2010 will be September 9, 2013.

(c) Except as noted in paragraph (d) of this section, the compliance date for an owner or operator of an affected source subject to the provisions of this subpart that commences new construction or reconstruction after March 24, 1998, is June 14, 1999, or upon startup of operations, whichever is later.

(d) The compliance date for new sources with the PM, mercury, THC, and HCl emissions limits in § 63.1343(b) is November 8, 2010 or startup, whichever is later.

■ 22. Section 63.1352 is revised to read as follows:

§ 63.1352 Additional test methods.

(a) If you are conducting tests to determine the rates of emission of HCl from kilns and associated bypass stacks at portland cement manufacturing facilities, for use in applicability determinations under § 63.1340, you may use Method 320 or Method 321 of appendix A of this part.

(b) Owners or operators conducting tests to determine the rates of emission of specific organic HAP from raw material dryers, kilns and in-line kiln/raw mills at Portland cement manufacturing facilities, solely for use in applicability determinations under § 63.1340 of this subpart are permitted to use Method 320 of appendix A to this part, or Method 18 of appendix A to part 60 of this chapter.

■ 23. Section 63.1354 is amended by adding paragraphs (b)(9)(vi) and (c) to read as follows:

§ 63.1354 Reporting requirements.

* * * * *

(b) * * *

(9) * * *

(vi) Monthly rolling average mercury, THC, PM, and HCl (if applicable) emissions levels in the units of the applicable emissions limit for each kiln, clinker cooler, and raw material dryer.

* * * * *

(c) The semiannual report required by paragraph (b)(9) of this section must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.1348(d), including actions taken to correct a malfunction.

■ 24. Section 63.1355 is amended by revising paragraphs (e) and paragraph (f) and adding paragraph (g) to read as follows:

§ 63.1355 Recordkeeping requirements.

* * * * *

(e) You must keep records of the daily clinker production rates and kiln feed rates.

(f) You must keep records of the occurrence and duration of each startup or shutdown.

(g)(1) You must keep records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment.

(2) You must keep records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.1348(d) including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

■ 25. Section 63.1356 is revised to read as follows:

§ 63.1356 Sources with multiple emission limits or monitoring requirements.

If an affected facility subject to this subpart has a different emission limit or requirement for the same pollutant under another regulation in title 40 of this chapter, the owner or operator of the affected facility must comply with the most stringent emission limit or requirement and is exempt from the less stringent requirement.

■ 26. Table 1 to Subpart LLL of Part 63 is revised to read as follows:

TABLE 1 TO SUBPART LLL OF PART 63—APPLICABILITY OF GENERAL PROVISIONS

Citation	Requirement	Applies to subpart LLL	Explanation
63.1(a)(1)–(4)	Applicability	Yes.	
63.1(a)(5)		No	[Reserved].
63.1(a)(6)–(8)	Applicability	Yes.	
63.1(a)(9)		No	[Reserved].
63.1(a)(10)–(14)	Applicability	Yes.	
63.1(b)(1)	Initial Applicability Determination.	No	§ 63.1340 specifies applicability.
63.1(b)(2)–(3)	Initial Applicability Determination.	Yes.	
63.1(c)(1)	Applicability After Standard Established.	Yes.	
63.1(c)(2)	Permit Requirements	Yes	Area sources must obtain Title V permits.
63.1(c)(3)		No	[Reserved].
63.1(c)(4)–(5)	Extensions, Notifications	Yes.	
63.1(d)		No	[Reserved].
63.1(e)	Applicability of Permit Program.	Yes.	
63.2	Definitions	Yes	Additional definitions in § 63.1341.
63.3(a)–(c)	Units and Abbreviations	Yes.	
63.4(a)(1)–(3)	Prohibited Activities	Yes.	
63.4(a)(4)		No	[Reserved].
63.4(a)(5)	Compliance date	Yes.	
63.4(b)–(c)	Circumvention, Severability	Yes.	
63.5(a)(1)–(2)	Construction/Reconstruction	Yes.	
63.5(b)(1)	Compliance Dates	Yes.	
63.5(b)(2)		No	[Reserved].
63.5(b)(3)–(6)	Construction Approval, Applicability.	Yes.	
63.5(c)		No	[Reserved].
63.5(d)(1)–(4)	Approval of Construction/Reconstruction.	Yes.	
63.5(e)	Approval of Construction/Reconstruction.	Yes.	
63.5(f)(1)–(2)	Approval of Construction/Reconstruction.	Yes.	
63.6(a)	Compliance for Standards and Maintenance.	Yes.	
63.6(b)(1)–(5)	Compliance Dates	Yes.	
63.6(b)(6)		No	[Reserved].
63.6(b)(7)	Compliance Dates	Yes.	
63.6(c)(1)–(2)	Compliance Dates	Yes.	
63.6(c)(3)–(4)		No	[Reserved].
63.6(c)(5)	Compliance Dates	Yes.	
63.6(d)		No	[Reserved].

TABLE 1 TO SUBPART LLL OF PART 63—APPLICABILITY OF GENERAL PROVISIONS—Continued

Citation	Requirement	Applies to subpart LLL	Explanation
63.6(e)(1)–(2)	Operation & Maintenance	No	*See* § 63.1348(d) for general duty requirement. Any reference to § 63.6(e)(1)(i) in other General Provisions or in this subpart is to be treated as a cross-reference to § 63.1348(d).
63.6(e)(3)	Startup, Shutdown Malfunction Plan.	No.	
63.6(f)(1)	Compliance with Emission Standards.	No	Compliance obligations specified in subpart LLL.
63.6(f)(2)–(3)	Compliance with Emission Standards.	Yes.	
63.6(g)(1)–(3)	Alternative Standard	Yes.	
63.6(h)(1)	Opacity/VE Standards	No	Compliance obligations specified in subpart LLL.
63.6(h)(2)	Opacity/VE Standards	Yes.	
63.6(h)(3)		No	[Reserved].
63.6(h)(4)–(h)(5)(i)	Opacity/VE Standards	Yes.	
63.6(h)(5)(ii)–(iv)	Opacity/VE Standards	No	Test duration specified in subpart LLL.
63.6(h)(6)	Opacity/VE Standards	Yes.	
63.6(h)(7)	Opacity/VE Standards	Yes.	
63.6(i)(1)–(14)	Extension of Compliance	Yes.	
63.6(i)(15)		No	[Reserved].
63.6(i)(16)	Extension of Compliance	Yes.	
63.6(j)	Exemption from Compliance	Yes.	
63.7(a)(1)–(3)	Performance Testing Requirements.	Yes	§ 63.1349 has specific requirements.
63.7(b)	Notification	Yes.	
63.7(c)	Quality Assurance/Test Plan	Yes.	
63.7(d)	Testing Facilities	Yes.	
63.7(e)(1)	Conduct of Tests	No	*See* § 63.1349(e). Any reference to 63.7(e)(1) in other General Provisions or in this subpart is to be treated as a cross-reference to § 63.1349(e).
63.7(e)(2)–(4)	Conduct of tests	Yes.	
63.7(f)	Alternative Test Method	Yes.	
63.7(g)	Data Analysis	Yes.	
63.7(h)	Waiver of Tests	Yes.	
63.8(a)(1)	Monitoring Requirements	Yes.	
63.8(a)(2)	Monitoring	No	§ 63.1350 includes CEMS requirements.
63.8(a)(3)		No	[Reserved].
63.8(a)(4)	Monitoring	No	Flares not applicable.
63.8(b)(1)–(3)	Conduct of Monitoring	Yes.	
63.8(c)(1)–(8)	CMS Operation/Maintenance	Yes	Temperature and activated carbon injection monitoring data reduction requirements given in subpart LLL.
63.8(d)	Quality Control	Yes, except for the reference to the SSM Plan in the last sentence.	
63.8(e)	Performance Evaluation for CMS.	Yes.	
63.8(f)(1)–(5)	Alternative Monitoring Method	Yes	Additional requirements in § 63.1350(l).
63.8(f)(6)	Alternative to RATA Test	Yes.	
63.8(g)	Data Reduction	Yes.	
63.9(a)	Notification Requirements	Yes.	
63.9(b)(1)–(5)	Initial Notifications	Yes.	
63.9(c)	Request for Compliance Extension.	Yes.	
63.9(d)	New Source Notification for Special Compliance Requirements.	Yes.	
63.9(e)	Notification of Performance Test.	Yes.	
63.9(f)	Notification of VE/Opacity Test.	Yes	Notification not required for VE/opacity test under § 63.1350(e) and (j).
63.9(g)	Additional CMS Notifications	Yes.	
63.9(h)(1)–(3)	Notification of Compliance Status.	Yes.	
63.9(h)(4)		No	[Reserved].
63.9(h)(5)–(6)	Notification of Compliance Status.	Yes.	
63.9(i)	Adjustment of Deadlines	Yes.	
63.9(j)	Change in Previous Information.	Yes.	

TABLE 1 TO SUBPART LLL OF PART 63—APPLICABILITY OF GENERAL PROVISIONS—Continued

Citation	Requirement	Applies to subpart LLL	Explanation
63.10(a)	Recordkeeping/Reporting	Yes.	
63.10(b)(1)	General Recordkeeping Requirements.	Yes.	
63.10(b)(2)(i)–(ii)	General Recordkeeping Requirements.	No	*See* § 63.1355(g) and (h).
63.10(b)(2)(iii)	General Recordkeeping Requirements.	Yes.	
63.10(b)(2)(iv)–(v)	General Recordkeeping Requirements.	No.	
63.10(b)(2)(vi)–(ix)	General Recordkeeping Requirements.	Yes.	
63.10(c)(1)	Additional CMS Recordkeeping.	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(1)	Additional CMS Recordkeeping.	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(2)–(4)		No	[Reserved].
63.10(c)(5)–(8)	Additional CMS Recordkeeping.	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(9)		No	[Reserved].
63.10(c)(10)–(15)	Additional CMS Recordkeeping.	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(d)(1)	General Reporting Requirements.	Yes.	
63.10(d)(2)	Performance Test Results	Yes.	
63.10(d)(3)	Opacity or VE Observations	Yes.	
63.10(d)(4)	Progress Reports	Yes.	
63.10(d)(5)	Startup, Shutdown, Malfunction Reports.	No	*See* § 63.1354(c) for reporting requirements. Any reference to § 63.10(d)(5) in other General Provisions or in this subpart is to be treated as a cross-reference to § 63.1354(c).
63.10(e)(1)–(2)	Additional CMS Reports	Yes.	
63.10(e)(3)	Excess Emissions and CMS Performance Reports.	Yes	Exceedances are defined in subpart LLL.
63.10(f)	Waiver for Recordkeeping/Reporting.	Yes.	
63.11(a)–(b)	Control Device Requirements	No	Flares not applicable.
63.12(a)–(c)	State Authority and Delegations.	Yes.	
63.13(a)–(c)	State/Regional Addresses	Yes.	
63.14(a)–(b)	Incorporation by Reference	Yes.	
63.15(a)–(b)	Availability of Information	Yes.	

Appendix A to Part 63—[Amended]

■ 27. Section 1.3.2 of Method 321 of Appendix A to Part 63—Test Methods is revised to read as follows:

Appendix A to Part 63—Test Methods

* * * * *

Test Method 321—Measurement of Gaseous Hydrogen Chloride Emissions at Portland Cement Kilns by Fourier Transform Infrared (FTIR) Spectroscopy

* * * * *

1.3.2 The practical lower quantification range is usually higher than that indicated by the instrument performance in the laboratory, and is dependent upon (1) the presence of interfering species in the exhaust gas (notably H_2O), (2) the optical alignment of the gas cell and transfer optics, and (3) the quality of the reflective surfaces in the cell (cell throughput). Under typical test conditions (moisture content of up to 30 percent, 10 meter absorption path length, liquid nitrogen-cooled IR detector, 0.5 cm^{-1} resolution, and an interferometer sampling time of 60 seconds) a typical lower quantification range for HCl is 0.1 to 1.0 ppm.

* * * * *

[FR Doc. 2010–21102 Filed 9–8–10; 8:45 am]
BILLING CODE 6560–50–P

Federal Register

Monday,
September 13, 2010

Part II

Environmental Protection Agency

40 CFR Parts 51, 60, 61, et al.
Restructuring of the Stationary Source Audit Program; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51, 60, 61 and 63

[EPA–HQ–OAR–2008–0531; FRL–9195–7]

RIN 2060–AP23

Restructuring of the Stationary Source Audit Program

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is taking final action to promulgate amendments to the General Provisions to allow accredited providers to supply stationary source audit samples and to require sources to obtain and use these samples from the accredited providers instead of from EPA, as is the current practice. All requirements pertaining to the audit samples have been moved to the General Provisions and have been removed from the test methods because the current language in the test methods regarding audit samples is inconsistent from method to method. Therefore, deleting all references to audit samples in the test methods eliminates any possible confusion and inconsistencies. Under this final rule, the requirement to use an audit sample during a compliance test will apply to all test methods for which a commercially available audit exists.

DATES: This final rule is effective 30 days after September 13, 2010.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2008–0531. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at the Restructuring of the Stationary Source Audit Program Docket, Docket ID No. EPA–OAR–2008–0531, EPA Docket Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. This Docket Facility is open from 8:30 a.m. to 4:30 p.m. Monday through Friday excluding legal holidays. The docket telephone number is (202) 566–1742. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744.

FOR FURTHER INFORMATION CONTACT: Ms. Candace Sorrell, U.S. EPA, Office of Air Quality Planning and Standards, Air Quality Assessment Division, Measurement Technology Group (E143–02), Research Triangle Park, NC 27711; telephone number: (919) 541–1064; fax number: (919) 541–0516; e-mail address: *sorrell.candace@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

This action would apply to you if you operate a stationary source that is subject to applicable requirements to conduct compliance testing under 40 CFR parts 60, 61, and 63.

In addition, this action would apply to you if Federal, State, or local agencies take certain additional actions. For example, this action would apply if State or local agencies implement regulations using any of the stationary source compliance test methods in Appendix M of Part 51 by adopting these methods in rules or permits (either by incorporation by reference or by duplicating the method in its entirety).

The source categories and entities potentially affected include, but are not limited to, the following:

Category	NAICS [a]	Examples of regulated entities
Industry	336111 336112	Surface Coating.
Industry	332410	Industrial, Commercial, Institutional Steam Generating Units.
Industry	332410	Electric Generating Units.
Industry	333611	Stationary Gas Turbines.
Industry	324110	Petroleum Refineries.
Industry	562213	Municipal Waste Combustors.
Industry	322110	Pulp and Paper Mills.

[a] North American Industry Classification System.

B. Where can I obtain a copy of this action and other related information?

In addition to being available in the docket, an electronic copy of the final rule is also available on the Worldwide Web (*http://www.epa.gov/ttn*) through the Technology Transfer Network (TTN). Following the Administrator's signature, a copy of the final rule will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at *http://www.epa.gov/ttn/oarpg.* The TTN provides information and technology exchange in various areas of air pollution control.

C. How is this document organized?

The information in this preamble is organized as follows:

I. General Information
A. Does this action apply to me?
B. Where can I obtain a copy of this document and other related information?
C. How is this document organized?
II. Background
III. This Action
IV. Public Comments on the Proposed Rule
A. Accreditation Program vs. Audit Program
B. Alternatives to Restructuring the Audit Program
C. Test Method Bias With Respect to the Audit Program
D. Terms Need Defining or Clarifying
E. Audit Sample Failure and Non-Compliance
F. Reporting Period
G. Choosing Correct Concentration for an Audit Sample
H. Cost Estimates
I. Requiring the Same Analyst and Analytical System for Sample Analysis
J. When are audit samples required?
K. Audit Sample Availability
L. Setting Acceptance Limits
M. Audit Samples Should Not Apply to Instrumental Methods
N. Notice and Comment Procedure
O. Field Analysis of Audit Samples
P. Audit Sample Matrix
Q. Audit Results Reporting and Availability
R. External QA Program
S. No Justification for the Program
T. Consistency
U. Ordering Audit Samples
V. EPA Maintained List of Audit Providers
W. 2003 Study on Quality Gas Cylinder Samples
X. Proposal Is Premature
Y. Voluntary Consensus Standards Body (VCSB) Standard Does Not Meet EPA's Needs
Z. Gas Audit Samples Entry Point
V. Judicial Review

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
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 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. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act

II. Background

The Restructuring of the Stationary Source Audit Program (SSAP) was proposed in the **Federal Register** on June 16, 2009, with a public comment period that ended July 16, 2009 (74 FR 28451). A public commenter asked that the comment period be extended. We extended the public comment period until August 5, 2009 (74 FR 31903). A total of 21 comment letters were received on the proposed rule. We have compiled and responded to the public comments and made appropriate changes to the final rule based on the comments.

III. This Action

This action finalizes revisions to the General Provisions of Parts 51, 60, 61, and 63 to allow accredited audit sample providers to supply stationary source audit samples and to require sources to obtain and use these samples from the accredited providers instead of from EPA, as was the practice. It also revises test methods 5I, 6, 6A–C, 7, 7A–D, 8, 15A, 16A, 18, 23, 25, 25C, 25D, 26, 26A, 104, 106, 108, 108A–C, 204A–F, 306, 306A, and 308 to delete any language pertaining to audit samples. By adding language to the General Provisions of Parts 51, 60, 61 and 63, the requirement to obtain and use audits for stationary source compliance testing using EPA stationary source test methods is expanded and clarified. The previous General Provisions and EPA test methods were not consistent in their language concerning the use or availability of audit samples. This action will potentially increase the number of test methods required to use audit samples and clarify how the samples are to be obtained and used. By clarifying the requirement for audit samples and expanding their availability through multiple providers, EPA believes audit samples will be used during more compliance tests and, therefore, the overall quality of the data used for determining compliance will improve.

This action finalizes the regulatory criteria which list the minimum requirements for the audit samples, the accredited audit sample providers (AASP), and the audit sample provider acceditor (ASPA). The AASP is the company that prepares and distributes the audit samples and the ASPA is a third-party organization that will accredit and monitor the performance of the AASPs. Both the AASP and the ASPA must work with a Voluntary Consensus Standard Body (VCSB) using the consensus process to develop criteria documents that describe how they will function and meet EPA regulatory criteria listed in this rule. The Federal Office of Management and Budget Circular A–119 defines a VCSB as one having the following attributes: (i) Openness; (ii) balance of interest; (iii) due process; (iv) an appeals process; and (v) consensus, which is general agreement, but not necessarily unanimity, and includes a process for attempting to resolve objections by interested parties. As long as all comments have been fairly considered, each objector is advised of the disposition of his or her objection(s) and the reason(s) why, and the consensus body members are given an opportunity to change their votes after reviewing the comments.

AASPs must be accredited by an ASPA according to a technical criteria document developed by a VCSB. The technical criteria document must meet EPA regulations. There may be many AASPs and more than one ASPA and VCSB. We predict that initially there will only be one VCSB.

This action finalizes language that outlines the responsibilities of the regulated source owner or operator to acquire and use an audit sample for all testing conducted to determine compliance with an air emission limit. The requirement applies only if there are commercially available audit samples for the test method used during the compliance testing. The source owner, operator or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the appropriate compliance authority.

In addition to allowing private AASPs to provide audit samples for the stationary source audit program, this action shifts the burden of obtaining an audit sample from the compliance authority to the source. In the past, the EPA provided the samples to the compliance authorities at no cost, but this action requires the source to purchase the samples from an accredited provider. The samples will vary in cost depending on the type of audit sample required; however, the cost will be a very small portion of the cost of a compliance test (approximately one percent). Based on historical data, EPA estimates that the total cost to industry to purchase audit samples will be between $150,000 to $200,000 per year at the current usage rate.

IV. Public Comments on the Proposed Rule

A more detailed summary of the public comments and our responses can be found in the Summary of Public Comments and Responses document, which is available from several sources (*see* **ADDRESSES** section). The major public comments are summarized by subject as follows:

A. Accreditation Program vs. Audit Program

Comment: Several comments suggested that the audit program was not needed due to the existence of accreditation programs for laboratories or that EPA should conduct a proficiency testing program as part of an accreditation program.

Response: An accreditation program or proficiency testing program serves a different purpose than an audit program. An accreditation program looks to see if the laboratory has the capabilities to conduct the analysis in question. The audit program is an event driven program that looks to see at a particular time that the combination of equipment and analyzer is able to analyze the sample within an acceptable range. Analyzing the audit samples at the same time as the field samples using the same equipment and analyst give the compliance authorities and the regulated community more confidence in the test results.

B. Alternatives to Restructuring the Audit Program

Comment: A number of commenters suggested alternatives to our proposed restructuring of the audit program to allow for independent accredited audit sample providers. These alternatives included maintaining the audit program as it currently stands in order to maintain oversight/authority, charging for audit samples, or conducting an EPA accreditation program for audit sample providers.

Response: We retain oversight authority over all parties who develop

information required by EPA to fully assess the proper implementation of the Clean Air Act (CAA). Section 114 of the Act gives EPA the authority to require the production of information, test results and answers to questions EPA may ask. We do not believe that it is necessary for EPA to directly provide or approve specific audit samples in order to ensure integrity in this program.

We do not believe it is necessary to develop a program to certify audit providers when there are already Voluntary Consensus Bodies in existence that have the capabilities to develop such a program with the input from a wide variety of stakeholders. Also, EPA is not legally allowed to charge for the samples. It would be a violation of the Miscellaneous Receipts Statute, 331 U.S.C. Section 3302(b), in addition to being an unlawful augmentation of EPA's Congressional appropriation.

C. Test Method Bias With Respect to the Audit Program

Comment: One commenter noted that by definition a performance audit is intended to provide a measure of test data bias. The commenter stated that this program is presumably intended as an audit of emissions sampling and analysis that would include the sampling technique, sample handling, sample preparation, and sample analysis accounting for the measurement biases relative to all steps of the process. However, this is not clear in the proposed rule. Please clarify the intent of the performance audit.

Response: Most of the current audit samples only evaluate the analysis portion of the method; we believe that in the future restructured program more audits will assess the effect of sampling and handling because we defined blind audit sample as follows: "A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that will be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source."

D. Terms Need Defining or Clarifying

Comment: Several commenters requested that the following terms be defined in the final rule: Commercially available and true value.

Response: We agree that "commercially available" and "true value" need to be defined. The final rule has been revised to state that an audit sample is "commercially available" when there are two or more sources for obtaining the audit sample. "True value" is the spiked/expected value of the audit.

Comment: One commenter suggested that the term "performance audit" be revised to include the potential for field collection of audit samples.

Response: Our intent was to include field collection and analysis in the definition of performance audit. We revised the definition in the final rule to state that if gaseous audits are available then they must be collected by the field sampling system during the compliance test just as the compliance samples are collected.

E. Audit Sample Failure and Non-Compliance

Comment: Seven commenters oppose the use of audit samples as evidence of non-compliance and believe the audit sample results should only be used as a tool to assess the quality of the compliance testing results but not as the sole reason for finding a facility in non-compliance when the emission test may demonstrate compliance.

Response: We believe the audit sample results can and should be used to assess the quality of test results for compliance purposes, but those audit sample results can and should, as appropriate, also be used to assist in establishing non-compliance. Sources may present whatever credible evidence they have to compliance officials indicating whether or not the audit sample results have a significant bearing on the compliance test results.

Comment: Three commenters recommended that the rule provide a means to appeal or question a retest or compliance action as the result of a failed audit. They believe that EPA should provide oversight authority to referee such situations, while one commenter suggested a procedure to require the audit sample be reanalyzed by the accredited audit sample provider.

Response: Audit samples are not the only criterion used to evaluate the quality of the test data; therefore, we do not expect disputes to be common. We believe that disputes involving failed audits can be negotiated by the parties.

F. Reporting Period

Comment: Three commenters requested that the final rule include additional time to submit a final report if audit results must be included in the report or delete the requirement to include the pass/fail results in the final report.

Response: Since the purpose of an audit sample is to support the credibility of a particular test result, it is important that the pass/fail result of the audit sample be included in the final test report. By privatizing the audit program, facilities will be able to get audit results directly from the AASPs which will be much quicker then obtaining them from the compliance authorities as in the past. Since the procedure for obtaining audit results will now be quicker, the final rule does not include additional time to submit a final report.

G. Choosing Correct Concentration for an Audit Sample

Comment: One commenter expressed concern that the proposed rule did not provide for compliance authority input into the supplied audit concentration levels. This commenter pointed out that while the proposal specifies that the source provide an estimate of the pollutant concentration(s), there is no compliance authority confirmation, nor the option for the compliance authority to make specific requests based on the needs for the given test program.

Response: We agree that the compliance authority should have the opportunity for input into the supplied audit sample concentration level. The final rule has been revised to require that an acceptable criteria document must provide the opportunity for the compliance authority to comment with the supplied audit sample concentration levels.

Comment: One commenter stated that Section 60.8(g)(1), "When ordering an audit sample, the source operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source and the name, address, and phone number of the compliance authority" will cause confusion because a source may or may not know the concentration of the pollutant of concern. Because EPA's interest is in ensuring that the emission standards are being met, the commenter suggested that the requirement should be to provide information on the standard the facility has to meet and the concentration that would be expected if the emissions equaled the permitted level.

Response: We agree that the facility could provide information based on the facility standard or permit level instead of exact emissions. The rule has been revised to allow this option.

H. Cost Estimates

Comment: Four commenters stated that the cost estimates for audit samples

are low. The commenters also asserted that the cost will be more than the EPA's estimate of approximately 1 percent of a source test. One commenter cited an example where a NELAC Performance Test (PT) sample initially cost $150 and quickly increased to over $900 for just a standard SO_2 gas audit sample.

Response: The commenter did not present any evidence to support this cost, and we were not able to substantiate the claim. According to discussions with the Executive Director of The NELAC Institute, the current cost range of SO_2 PT samples is approximately $95 to $108, and we expect the cost for the SO_2 audit samples to be about the same because they are made exactly the same and only used for different purposes. The cost estimates discussed in the proposed rulemaking are based on the last ten years that EPA has operated the program.

Comment: Seven commenters stated that EPA significantly underestimated the cost of the audit program because EPA did not include the analytical fees associated with the audit.

Response: Analytical fees are not a new cost. Facilities have always been required to pay for the analysis of the audit samples even under the current program where we have provided the audit samples free of charge. Therefore, we do not believe it is appropriate to add analytical fees to the estimated cost for the program.

Comment: One commenter expressed concern that the cost estimates and the Information Collection Request (ICR) are woefully incomplete. This commenter stated that EPA's estimate should include the total costs and burdens imposed on sources by the proposed new SSAP such as the cost to sources for purchasing audit samples, analyzing (and in some cases reanalyzing) audit samples, reporting audit sample results and other information, developing and implementing the other aspects of the proposed "external QA program," and participating initially and every two years thereafter in the proposed VCSB "public process" to ensure that criteria developed by those organizations are reasonable, and not just the cost incurred by the AASP to report the true value of the audit sample. This commenter believes that the burden estimate should also include the cost to EPA of reviewing and approving proposed "written technical criteria documents" and otherwise participating in the VCSB process. This commenter believes that EPA could limit the ICR to the cost incurred by the AASP to report the true value of the audit sample only if the other burdens already were covered under an approved ICR for the period in question.

Response: The ICR estimate of burden includes the estimated cost for the AASP to report the results of the audit to the compliance authority. In addition, the ICR has been revised to include the cost of the audit sample since in the past the audit samples were free. The cost of the requirement to analyze (and in some cases reanalyze) audit samples and reporting audit sample results has already been taken into account in past ICRs for each emission limit under the New Source Performance Standards which contained a burden estimate for reporting emission testing results to demonstrate compliance with emission limits. We believe that not all compliance tests that should be audited are being audited under the current program. We believe under the restructured program the rate of compliance with the audit requirement will be higher; therefore, we have revised the ICR to reflect the fact that more audit samples will be purchased. The final rule does not require anyone to participate in the VCSB "public process" and, therefore, the cost of participating was not included in the ICR.

I. Requiring the Same Analyst and Analytical System for Sample Analysis

Comment: Two commenters are concerned about the requirement that the audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system as the compliance samples. These commenters pointed out that there may be several gas chromatograph/mass spectrometers in a particular lab, and all of these instruments are calibrated and certified, so that it does not matter which of these instruments are used to analyze an individual sample.

Response: While EPA agrees that identical instruments calibrated by the same reagents should give the same answer within repeatability limits, EPA also believes that it is important to limit all sources of imprecision and, therefore, the audits should be analyzed using the same analyst and the same analytical system as the compliance test samples.

Comment: One commenter stated that the requirement that the "audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system as the compliance samples" should be expanded to specify analyzing them in the same batch as the compliance samples and, if they are collected in the field, to collect them with the same person(s), using the same reagents and collection system. This commenter suggested that if field testers use different sampling trains to collect compliance samples during different test runs, from then the tester should collect audit samples with all the trains and analyze the samples from the different trains separately or as a composite.

Response: We have revised the final rule to clarify how field audits should be collected when the audit sample is designed to check the sampling system. The final rule requires that field audits must be collected using the same field testing person who collected the field samples using one of the field sampling systems that was used to collect the compliance samples. If multiple sampling systems were used, the rule will not require that each sampling train used during the field test be used to collect an audit sample. The revised rule also requires that the audit samples must be analyzed at the same time as the test samples unless the compliance authority waives this requirement.

J. When are audit samples required?

Comment: Two commenters believe it makes more sense for the source and the compliance authority to discuss the need for an audit sample on a case-by-case basis instead of EPA making it mandatory for each individual test.

Response: The requirement for an audit sample is nothing new. Current regulations require audit samples if they are available and we do not see a need to change the requirement. We believe that the program should be administered consistently across the Nation and the only way to do that is to require the tester to include an audit sample with all compliance tests using methods for which audits are available. The compliance authority can always waive the requirement to include an audit sample for a specific compliance test if they believe the audit sample is not necessary.

Comment: Four commenters stated that the proposed rule was unclear with respect to how many audit samples may be required during a given performance test. They stated that if the same method is used and the same pollutant is sampled, then only one audit sample should be necessary for the entire set of samples collected during a test program.

Response: We agree that only one audit sample per method used during a performance test is needed so long as all pollutants measured using that method are covered by the audit sample. The final rule has been revised to clarify this.

K. Audit Sample Availability

Comment: Two commenters are concerned that the timing for checking on availability of a specific pollutant audit sample does not mesh with the 60-day requirement to submit a test protocol for approval by the permitting authority. The commenters suggested that the cut-off date for sources to locate and incorporate audit sample requirements into a performance test plan must be at least three months prior to submitting the test protocol to their permitting authority.

Response: There is no requirement under the amended SSAP program to submit a test protocol for approval by the compliance authority. If a source chooses to voluntarily prepare and submit a test protocol, the protocol could incorporate audit sample requirements that would have to be met only if an audit sample became available 60 days prior to the scheduled test date.

Comment: One commenter stated that EPA presumes that there will be Accredited Audit Sample Providers or Accredited Proficiency Test Sample Providers willing to get in the business of supplying the necessary audits for all applicable methods. The commenters suggested that EPA should plan for a transition period if there is a delay in getting providers accredited.

Response: We anticipate that audit samples will be available for most if not all the methods for which EPA currently provides audit samples. We know that The NELAC Institute is currently developing criteria documents and accreditation standards to produce audit standards (*http://www.nelac-institute.org/standards.php*) so we know there is interest in the private sector. We believe there will be an accredited audit program in the future. Therefore, we do not believe that there is a need for a transition period during which EPA would continue to provide audit samples until an accredited audit sample provider is approved. Again, if an audit sample is not available, there is no requirement for use of an audit sample.

Comment: One commenter suggested that PT samples should not be used in place of audit samples, unless PT providers follow the provider requirements and be accepted as an audit sample provider by a provider accreditor, as set forth in the Standards defined by the VCSB they are using.

Response: We agree with this comment. The rule has been revised to remove the option of using PT samples in place of audit samples if audit samples are not available.

Comment: One commenter believes EPA should not allow sources to forgo using an audit sample if the EPA fails to identify a provider on its Web site 60 days before a scheduled test. This commenter contends that EPA should leave the job of identifying providers and which samples are available to the sources that are required to demonstrate compliance.

Response: It takes time to plan and prepare for a source test. We do not want a source to be cited for a violation because an audit sample becomes available a short time before the compliance test. We also do not want sources and testing firms to spend time every day looking for available audit samples. Therefore, we believe the final rule needs to provide a 60-day time frame so that sources can properly plan a compliance test. In addition, listing the available audits on our Web site not only benefits the sources but also the compliance authorities. The list provides one location for them to see what is available; otherwise they too would have to constantly contact providers for information on available audits.

L. Setting Acceptance Limits

Comment: Two commenters are concerned about allowing the VCSBs to determine the audit acceptance criteria. The commenters contend that EPA needs to define its minimum requirements to define the acceptable level of performance for compliance purposes and not leave it up to voluntary consensus organizations.

Response: We agree that EPA needs to define minimum requirements for how the acceptance criteria should be determined in the final rule. The final rule has been revised to specify that acceptance criteria must be based on results from the analysis of audit test samples analyzed by qualified laboratories using the method that is being audited. The final rule requires that acceptance limits must be set so that 90 percent of qualified laboratories would produce results within the acceptance limits for 95 percent of all future audits. This acceptance criterion is consistent with the general goal that EPA established for the program it operated in the past.

M. Audit Samples Should Not Apply to Instrumental Methods

Comment: Three commenters expressed confusion and concern over how audit samples would be applied to instrumental methods and other test methods involving human observers (*i.e.*, Method 9 and 22).

Response: We agree that it is not necessary to require audit samples for those test methods that use instruments to measure pollutants in stack gas samples taken directly from an emission source. These methods include Method 3C, 6C, 7E, 10, 20, 25A, 318, 320, and 321. These methods already have sufficient calibration and quality assurance requirements that would make an additional audit sample redundant. We believe that Method 18 also has sufficient quality assurance measures that make an audit sample unnecessary. This method requires that the tester perform a recovery study through the entire sampling system to demonstrate that the combined sampling and analytical system is capable of measuring the target pollutant within specified limits. The measured results are then corrected to account for the empirically determined recovery. We believe that for this method an audit sample would not add significant additional information about the quality of the measured results. We have revised the final rule to specifically exempt Methods 3C, 6C, 7E, 9, 10, 18, 20, 22, 25A, 303, 318, 320, and 321 from the requirement to have an audit sample. We also agree that Methods 9, 22, and 303 do not need audit samples. These are all methods for determining visible emissions by observation and, therefore, there is no practical way to audit them. The final rule has been revised to exempt these methods from the audit sample requirement.

N. Notice and Comment Procedure

Comment: One commenter believes this proposal turns the requirements of the "National Technology Transfer and Advancement Act of 1995 (NTTAA)" (Pub. L. 104–113) "on its head" because the NTTAA requires EPA (and other Federal agencies) to use standards already adopted by VCSBs, where appropriate, rather than developing their own government-unique standards. In addition NTTAA requires EPA to participate in the development of such standards to help ensure their usefulness in government applications but does not authorize EPA to adopt VCSB standards that do not currently exist, to adopt rules that condition sources' compliance with Federal regulations on a VCSB's adoption of standards, or to require regulated sources to participate in future VCSB proceedings in order to protect their interests.

The commenter also contends that EPA's own regulations do not allow EPA to approve and incorporate by reference future VCSB standards

because it would be an unlawful circumvention of notice and comment procedures, and of limitations on incorporation by reference.

Response: The NTTAA only requires agencies to use VCS in regulatory actions when VCSs are available. There are no current standards adopted by VCSBs for audit samples. We are allowing VCSBs to develop standards for audit samples and allowing these standards to be used for government applications. These audit samples are not used to determine compliance. They are quality assurance tools used during compliance testing to assist in determining the accuracy of the compliance testing. The final rule does not condition a sources's compliance with Federal regulations on a VCSBs adoption of standards. If audit samples do not exist for a particular compliance test, an audit sample is not required. Although some may choose to participate, there is also no requirement that sources participate in future VCSB proceedings.

On the second point, we did not circumvent notice and comment procedures. The final rule establishes minimum requirements for the audit samples, the accredited audit sample providers and the audit sample provider accreditor. We have proposed these criteria for notice and comment. Although audit samples may be produced in the future, the only audit samples that we will accept are those that meet the substantive requirements of this rule. Accordingly, all commenters have had a full opportunity to discuss their concerns with the requirements set for audit samples by this rule.

O. Field Analysis of Audit Samples

Comment: Five commenters requested that the final rule be revised to allow the owner/operator to obtain a waiver from the requirement to have the compliance authority present at the testing site on a case-by-case basis when the method being audited is a method that allows the samples to be analyzed in the field and tester plans to analyze the samples in the field because it may not be practical for a representative from the compliance authority to be on-site for every one of these audit analyses.

Response: We agree that it may not be practical in all cases for a representative of the compliance authority to be present when an audit sample is analyzed in the field, so we revised the final rule to allow the owner/operator to obtain a waiver from the compliance authority for the requirement to have the compliance authority present at the testing site.

P. Audit Sample Matrix

Comment: Three commenters discussed the issue of the audit sample matrix. One commenter felt we needed to be clear about what interferents can and cannot be added to the samples to ensure consistency among the audit providers. Another commenter stated that EPA must specifically require that audit samples include realistic interferents while the third commenter found the use of interferents troubling since the audit providers would not necessarily know what to mimic.

Response: The term sample matrix was not intended to imply that the audit samples were to be prepared in a manner that would duplicate an emission gas stream. The term matrix is only used in conjunction with those samples that do not consist of the pollutant in the gas phase in air or nitrogen. The term matrix was used to indicate that if a method collected the pollutant in a similar aqueous solution, then the audit sample should consist of the pollutant in an aqueous solution. The EPA believes that preparing audit samples in a matrix that would include interferents that might or might not be present in the stack is too complex to be workable. EPA is not requiring that interferents be included in the audit samples.

Q. Audit Results Reporting and Availability

Comment: One commenter believes the compliance authority should be provided a copy of the audit results at the time of shipment from the sample provider because having the results prior to sample analysis helps generate more accurate data and minimizes problems.

Response: We believe that this would be beneficial but should not be mandatory. Since we did not provide the compliance authorities with the actual concentrations under the current audit program, it is hard to justify making it mandatory.

Comment: One commenter suggested that if the audit is conducted in the field and the results of the audit are available prior to conducting the emission tests, the facility should be provided with information on the pass/fail status of the audit test results prior to carrying out the source test. The commenter points out that this would avoid unnecessary testing and waste of resources when the ability of the source tester is in question because of failure to produce acceptable results for the audit sample.

Response: We agree with the commenter, and there is nothing in the final rule to prevent this scenario.

Comment: One commenter stated that audit sample providers should report only pass or fail for the audit sample result and not the true value of the audit sample because audit samples are to be unknowns. This commenter was concerned that if the audit samples are supplied in a limited number of concentrations, then over time this might reveal the true values and would compromise the unknown status of the audit sample.

Response: We agree that the sample's true value needs to remain blind to the sources and laboratories at least until the values are reported. The final rule has been revised to state that only pass or fail results shall be reported unless the accredited audit sample provider ensures that no laboratory will receive the same sample twice.

Comment: One commenter stated that the audit sample provider would be under no compliance (or contractual) obligation to provide a quick turnaround on the audit results, so significant delay could occur during this step, depending on the audit sample provider's availability. This commenter asked EPA to add a regulatory provision requiring the audit sample provider to send out the results of the audit within 7 calendar days.

Response: We agree that it is important that the AASPs provide a quick turnaround of the audit results. The final rule includes a requirement that AASPs submit the results in a timely manner. The AASPs and the sources may decide a more specific time frame.

R. External QA Program

Comment: One commenter expressed confusion and concern about the proposed rule's use of the terminology "External QA program" and that an additional requirement might be added to the external QA program.

Response: The only mandatory requirement under the restructured audit program would be to include an audit sample with each compliance test. EPA has revised the final rule to make this clear.

S. No Justification for the Program

Comment: Five commenters believe that EPA did not provide a justification for continuing the current program or expanding the program. Three commenters felt that the emergence of private providers is an insufficient rationale for the rulemaking.

Response: We disagree. The emergence of private providers is one reason for changing the audit program. We discussed other reasons for privatizing the audit program in the

Notice of Proposed Rule Making. Also, we believe allowing private companies to provide audit samples will: (1) Ensure a wider range of audit sample concentrations that will better match the working range of the methods, (2) provide a more efficient and responsive system for supplying the required samples, (3) ensure greater transparency in the operation of the audit program, (4) produce higher quality audit samples, and (5) ensure a more stable supply of samples.

T. Consistency

Comment: One commenter noted that there was an inconsistency in the proposed rules between the language in Part 51 and that in Part 60. According to this commenter, the language in Part 51 could be interpreted to mean that the results for an audit sample could be reported to the AASP or Accredited PT Sample Providers (APTSP) at some later time after reporting to the compliance authority, whereas the language in Part 60 could be interpreted to mean that the audit sample results should be reported to the compliance authority and to the AASP or APTSP at the same time. The commenter suggested that the statement in Part 51 should be amended to correspond with the statement in Part 60.

Response: We agree that the two statements should be consistent. The final rule has been revised so all parts require that the audit sample results be reported to the compliance authority and the audit sample provider at the same time.

Comment: One commenter suggested that we revise the National Emission Standards for Hazardous Air Pollutants (NESHAP) General Provisions for consistency with the proposed audit restructuring program. The commenter pointed out that provisions in 63.7(4)(i) state that "audit materials may be obtained by contacting the appropriate EPA Regional Office or responsible enforcement authority," and this language conflicts with the proposed rule.

Response: We agree and the final rule has been revised to correct the inconsistency.

U. Ordering Audit Samples

Comment: Two commenters stated that it is not clear who is responsible for obtaining the audit samples because the proposed rule allows the source or an agent for the source to request the audit sample for a source test. The commenters requested that EPA clarify the type of documentation that would be needed by the agent to demonstrate to the AASP that it is indeed an agent for the source.

Response: This provision was intended to allow the source owner or someone designated by the owner such as a member of a source testing firm to request the audit sample. The agent would need to work with the AASP to provide any documentation necessary to satisfy the AASP that they were an agent acting for the source.

Comment: One commenter believes there should be a time-frame for the source to order audit samples and the compliance authority should be notified when an audit sample was ordered.

Response: The final rule has been revised to provide the compliance authority input into the audit sample concentration range which in itself provides the compliance authority notification of an audit sample order. We believe the time frame for ordering audit samples is an issue that should be considered by the source owner, compliance authority and the AASP. It is not an issue that is covered by this rule.

V. EPA Maintained List of Audit Providers

Comment: One commenter is concerned that if source owners seek the lowest cost AASPs, then there could be audit sample shortages, unforeseeable variations in costs, audit quality issues, and last minute failures in AASPs supplying audit samples. The commenter also asked that EPA flag or remove any AASP that fails to deliver audit material as offered or promised.

Response: We intend to monitor the progress of this new system of supplying audit samples to ensure that it works as anticipated. We anticipate that most AASPs will deliver on their contracts, as most businesses want repeat customers.

W. 2003 Study on Quality Gas Cylinder Samples

Comment: One commenter believes reliance on voluntary consensus requirements for accreditation of audit samples does little to improve the reliability of compliance testing, and may threaten the quality of the testing itself without additional procedures for qualifying and auditing private entities. The commenter believes this makes the EPA proposal arbitrary and unreasonable. As proof of this contention, the commenter points to a 2003 study where EPA performed an audit of 42 source-level, tri-blend, EPA Protocol calibration gas cylinders from a total of 14 major gas vendors nationwide. The commenter points out that the overall failure rate from this study was 11 percent on a gas component basis, and 57 percent on a vendor basis, and that no additional evidence of the availability or the quality or calibration of private vendor audit samples has been offered to refute EPA's own study.

Response: This study is not relevant to the restructuring of the audit program. The gas vendors surveyed in this study were not accredited to produce EPA Protocol calibration gases because the protocol gas program does not require accreditation and were not subject to any third party verification. The restructured audit program requires that providers be accredited and provide recurring third party verification of the quality of the audit samples being produced.

X. Proposal Is Premature

Comment: One commenter expressed concern that there were no existing third party accrediting bodies for audit sample providers and, therefore, there are no AASPs from which to obtain audit samples under this proposed rule. This commenter contends that it is not sufficient for EPA to simply propose a framework and then to develop the details of the program after the opportunity for notice and comment has passed.

Response: As stated previously, an audit sample is required with compliance testing only when a sample is available, except where exempted in the regulations. EPA is permitted to develop regulatory criteria for approval of criteria documents from audit sample providers and did this in the proposed rule which provided an opportunity for notice and comment. These are not "details of the program" to be determined at a later date. If an audit sample provider's criteria document meets the regulatory criteria, it will be approved and the sample provider may provide samples for sources conducting compliance tests.

Y. Voluntary Consensus Standards Body (VCSB) Standard Does Not Meet EPA's Needs

Comment: One commenter believes the entire proposal is short on detail and hopes this will be addressed through EPA's approval of accrediting bodies, where EPA would specify additional details. The commenter also expressed concern the VCSB may be able to agree to standards, but those standards might not serve the needs of EPA or other compliance authorities.

Response: We believe that any program that meets the minimum criteria specified in the final rule will meet the needs of the EPA and other

compliance agencies. The criteria in the final rule ensure that any program that is developed by the private sector and approved by EPA will be equivalent to EPA's current audit program.

Z. Gas Audit Samples Entry Point

Comment: One commenter recommended changing Section 60.8(g) to read as follows: "For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source." The commenter points out that in source gas sampling, calibration gases as well as audit gases are introduced in the probe such that they pass through most of the probe tube and all filters and other components of the sampling system, but it is not always practical to introduce the calibration gas at the same entry point as the source gas.

Response: We agree that it may not always be practical to introduce the calibration gas at the same entry point as the source gas. EPA has revised the rule to allow introduction of the audit sample "at or near" the entry point for the sample from the emission source.

V. Judicial Review

Under section 307(b)(1) of the CAA, judicial review of this final rule is available by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by November 12, 2010. Under section 307(d)(7)(B) of the CAA, only an objection to this final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the CAA, the requirements established by this action may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

This action is not a "significant regulatory action" under the terms of Executive Order (E.O.) 12866 (58 FR 51735, October 4, 1993) and is, therefore, not subject to review under the E.O.

B. Paperwork Reduction Act

The information collection requirements in this 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.

A regulated emission source conducting a compliance test would purchase an audit sample from an AASP. The AASP would report the true value of the audit sample to the compliance authority (State, local or EPA Regional Office). This is a new reporting requirement. The AASP would in most cases make the report by electronic mail. A report would be made for each audit sample that the AASP sold to a regulated emission source that was conducting an emissions test to determine compliance with an emission limit.

Based on historic data, EPA estimates that there will be about 1,000 audit samples sold each year generating the need for about 1,000 reports which corresponds to 80 hours burden or 0.08 hour per response for reporting and recordkeeping. The estimated cost burden is $5.05 per response or an annual burden of $5,050. 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 in 40 CFR 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.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (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 this rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; 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.

After considering the economic impacts of today's final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. The small entities directly regulated by this final rule are small businesses. We have determined that annually as many as 70 or 0.001 percent of small businesses will experience an impact of 0.013 to 0.2 percent of revenues.

D. Unfunded Mandates Reform Act

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 one year. The incremental costs associated with purchasing the audit samples (expected to be less than $1,000 per test) do not impose a significant burden on sources. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. In fact, this rule removes the responsibility of acquiring the audit samples to the regulated facility from the government agency.

E. Executive Order 13132: Federalism

This action 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. This action adds language to the general provisions to

allow accredited providers to supply stationary source audit samples and to require sources to obtain and use these samples from the accredited providers instead of from EPA, as is the current practice. Thus, Executive Order 13132 does not apply to this action.

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

This action does not have Tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). This action adds language to the general provisions to allow accredited providers to supply stationary source audit samples and to require sources to obtain and use these samples from the accredited providers instead of from EPA, as is the current practice. Thus, Executive Order 13175 does not apply to this action.

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

EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the E.O. has the potential to influence the regulation. This action is not subject to E.O. 13045 because it does not establish an environmental standard intended to mitigate health or safety risks.

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

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

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

This rulemaking involves technical standards. Therefore, the Agency conducted a search to identify potential applicable voluntary consensus standards. However, we identified no such standards, and none were brought to our attention in comments. Therefore, EPA has decided to establish minimum requirements for the audit samples, the accredited audit sample providers and the audit sample provider accreditor.

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

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

EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. The amendments would add language to the general provisions to allow accredited providers to supply stationary source audit samples and to require sources to obtain and use these samples from the accredited providers instead of from EPA, as is the current practice.

K. 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. 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). This rule will be effective October 13, 2010.

Restructuring of the Stationary Source Audit Program

List of Subjects

40 CFR Part 51

Administrative practice and procedure, Air pollution control, Carbon monoxide, Intergovernmental relations, Lead, Nitrogen oxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur compounds, Volatile organic compounds.

40 CFR Part 60

Environmental protection, Administrative practice and procedure, Air pollution control, Continuous emission monitors.

40 CFR Part 61

Environmental protection, Air pollution control.

40 CFR Part 63

Environmental protection, Administrative practice and Procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: August 26, 2010.

Lisa P. Jackson,

Administrator.

■ For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 51 continues to read as follows:

Authority: 23 U.S.C. 101; 42 U.S.C. 7401–7671q.

■ 2. Amend Appendix M to part 51 as follows:

■ a. Designate the three introductory paragraphs as Sections 1.0 through 3.0.

■ b. Add new Section 4.0.

■ c. In Method 204A by removing Sections 7.2, 7.2.1, 7.2.2, and 7.2.3.

■ d. In Method 204B by removing Sections 6.2, 6.2.1, 6.2.2, and 6.2.3.

■ e. In Method 204C by removing Sections 6.2, 6.2.1, 6.2.2, and 6.2.3.

■ f. In Method 204D by removing Sections 6.2, 6.2.1, 6.2.2, and 6.2.3.

■ g. In Method 204E by removing Sections 6.2, 6.2.1, 6.2.2, and 6.2.3.

■ h. In Method 204F by removing Sections 6.3, 6.3.1, 6.3.2, 6.3.3.

Appendix M to Part 51—Recommended Test Methods for State Implementation Plans

* * * * *

4.0 *Quality Assurance Procedures.* The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after it reports the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that will be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

a. The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3C of Appendix A–3 of Part 60, Methods, 6C, 7E, 9, and 10 of Appendix A–4 of Part 60, Method 18 of Appendix A–6 of Part 60, Methods 20, 22, and 25A of Appendix A–7 of Part 60, and Methods 303, 318, 320, and 321 of Appendix A of Part 63. If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. "Commercially available" means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, *http://www.epa.gov/ttn/emc,* to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering an audit sample, the source owner, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request and the compliance authority may grant a waiver to the requirement that a representative of the compliance authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance authority and then report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

b. An AASP shall have and shall prepare, analyze, and report the true value of audit samples in accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:

1. Preparing the sample;
2. Confirming the true concentration of the sample;
3. Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range;
4. Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;
5. Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;
6. Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;
7. Report the results from each audit sample in a timely manner to the compliance authority and to the source owner, operator, or representative by the AASP. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.
8. Evaluating the acceptance limits of samples at least once every two years to determine in consultation with the voluntary consensus standard body if they should be changed;
9. Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

c. The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP

technical criteria document that describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

1. Checking audit samples to confirm their true value as reported by the AASP;

2. Performing technical systems audits of the AASP's facilities and operating procedures at least once every 2 years.

3. Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.

d. The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget *Circular A–119*. A copy of *Circular A–119* is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395–6880 or by downloading online at *http://standards.gov/standards_gov/a119.cfm*. The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in this Appendix M, paragraphs b. through d., the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, *http://www.epa.gov/ttn/emc.*

* * * * *

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

■ 3. The authority citation for Part 60 continues to read as follows:

Authority: 42 U.S.C. 7410, 7414, 7421, 7470–7479, 7491, 7492, 7601 and 7602.

■ 4. Section 60.8 is amended by adding paragraph (g) to read as follows:

§ 60.8 Performance tests.

* * * * *

(g) The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

(1) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3C of Appendix A–3 of Part 60, Methods 6C, 7E, 9, and 10 of Appendix A–4 of Part 60, Method 18 of Appendix A–6 of Part 60, Methods 20, 22, and 25A of Appendix A–7 of Part 60, and Methods 303, 318, 320, and 321 of Appendix A of Part 63. If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. "Commercially available" means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, *http://www.epa.gov/ttn/emc,* to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering an audit sample, the source, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request and the compliance authority may grant a waiver to the requirement that a representative of the compliance

authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance authority and report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

(2) An AASP shall have and shall prepare, analyze, and report the true value of audit samples in accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:

(i) Preparing the sample;

(ii) Confirming the true concentration of the sample;

(iii) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range.

(iv) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;

(v) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;

(vi) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;

(vii) The AASP shall report the results from each audit sample in a timely manner to the compliance authority and then to the source owner, operator, or representative. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.

(viii) Evaluating the acceptance limits of samples at least once every two years to determine in cooperation with the voluntary consensus standard body if they should be changed;

(ix) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

(3) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

(i) Checking audit samples to confirm their true value as reported by the AASP;

(ii) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years;

(iii) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.

(4) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget Circular A–119. A copy of Circular A–119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395–6880 or downloading online at *http://standards.gov/standards_gov/a119.cfm.* The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in paragraphs (g)(2) through (4)of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, *http://www.epa.gov/ttn/emc.*

■ 5. In Appendix A–3 to part 60 amend Method 5I by revising Section 7.2 to read as follows:

Appendix A–3 to Part 60—Test Methods 4 through 5I

* * * * *

Method 5I—Determination of Low Level Particulate Matter Emissions From Stationary Sources

* * * * *

7.2 Standards. There are no applicable standards commercially available for Method 5I analyses.

* * * * *

■ 6. Amend Appendix A–4 to part 60 as follows:

■ a. In Method 6 as follows:

■ i. Remove Section 7.3.6., including the note that follows.

■ ii. Revise Section 9.0.

■ iii. Remove Sections 11.3, 11.3.1 through 11.3.3, 11.4, 11.4.1 through 11.4.4, and 12.4.

■ iv. Revise Section 12.1.

■ b. In Method 6A as follows:

■ i. Remove Section 11.2.

■ ii. Revise Section 16.5.

■ c. In Method 6B by removing Section 11.2.

■ d. In Method 6C by revising Section 16.1.

■ e. In Method 7 as follows:

■ i. Remove Section 7.3.10., including the note that follows.

■ ii. Revise Section 9.

■ iii. Remove Sections 11.4, 11.4.1 through 11.4.3, 11.5, 11.5.1 through 11.5.4, and 12.6.

■ iv. Revise Section 12.1.

■ f. In Method 7A as follows:

■ i. Revise Section 6.3.

■ ii. Remove Section 7.3.5.

■ iii. Revise Section 9.0.

■ iv. Remove Section 11.3.

■ g. In Method 7B as follows:

■ i. Revise Section 9.0.

■ ii. Remove Section 11.4.

■ h. In Method 7C as follows:

■ i. Remove Section 7.2.15.

■ ii. Revise Section 9.0.

■ iii. Remove Section 11.6.

■ i. In Method 7D as follows:

■ i. Remove Sections 7.2.6 and 11.3.

■ ii. Revise Section 9.0.

■ j. In Method 8 as follows:

■ i. Remove Section 7.3.1., including the note that follows.
■ ii. Revise Section 9.1.
■ iii. Remove Sections 11.3, 11.3.1, 11.3.2, 11.3.3, 11.4, 11.4.1, 11.4.2, 11.4.3, 11.4.4, and 12.9.
■ iiv. Revise Section 12.1.

Appendix A–4 to Part 60—Test Methods 6 Through 10B

* * * * *

Method 6—Determination of Sulfur Dioxide Emissions From Stationary Sources

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
7.1.2	Isopropanol check	Ensure acceptable level of peroxide impurities in isopropanol.
8.2, 10.1–10.4	Sampling equipment leak-check and calibration	Ensure accurate measurement of stack gas flow rate, sample volume.
10.5	Barium standard solution standardization	Ensure precision of normality determination
11.2.3	Replicate titrations	Ensure precision of titration determinations.

* * * * *

12.1 Nomenclature

C_{SO2} = Concentration of SO_2, dry basis, corrected to standard conditions, mg/dscm (lb/dscf).
N = Normality of barium standard titrant, meq/ml.
P_{bar} = Barometric pressure, mm Hg (in. Hg).
P_{std} = Standard absolute pressure, 760 mm Hg (29.92 in. Hg).
T_m = Average DGM absolute temperature, °K (°R).
T_{std} = Standard absolute temperature, 293 °K (528 °R).
V_a = Volume of sample aliquot titrated, ml.
V_m = Dry gas volume as measured by the DGM, dcm (dcf).
$V_{m(std)}$ = Dry gas volume measured by the DGM, corrected to standard conditions, dscm (dscf).
V_{soln} = Total volume of solution in which the SO_2 sample is contained, 100 ml.
V_t = Volume of barium standard titrant used for the sample (average of replicate titration), ml.
V_{tb} = Volume of barium standard titrant used for the blank, ml.
Y = DGM calibration factor.

* * * * *

Method 6A—Determination of Sulfur Dioxide, Moisture and Carbon Dioxide Emissions From Fossil Fuel Combustion Sources

* * * * *

16.5 Sample Analysis. Analysis of the peroxide solution is the same as that described in Section 11.1.

* * * * *

Method 6C—Determination of Sulfur Dioxide Emissions From Stationary Sources (Instrumental Analyzer Procedure)

* * * * *

16.1 Alternative Interference Check. You may perform an alternative interference check consisting of at least three comparison runs between Method 6C and Method 6. This check validates the Method 6C results at each particular source category (type of facility) where the check is performed. When testing under conditions of low concentrations (<15 ppm), this alternative interference check is not allowed.

Note: The procedure described below applies to non-dilution sampling systems only. If this alternative interference check is used for a dilution sampling system, use a standard Method 6 sampling train and extract the sample directly from the exhaust stream at points collocated with the Method 6C sample probe.

a. Build the modified Method 6 sampling train (flow control valve, two midget impingers containing 3 percent hydrogen peroxide, and dry gas meter) shown in Figure 6C–1. Connect the sampling train to the sample bypass discharge vent. Record the dry gas meter reading before you begin sampling. Simultaneously collect modified Method 6 and Method 6C samples. Open the flow control valve in the modified Method 6 train as you begin to sample with Method 6C. Adjust the Method 6 sampling rate to 1 liter per minute (.10 percent). The sampling time per run must be the same as for Method 6 plus twice the average measurement system response time. If your modified Method 6 train does not include a pump, you risk biasing the results high if you over-pressurize the midget impingers and cause a leak. You can reduce this risk by cautiously increasing the flow rate as sampling begins.

b. After completing a run, record the final dry gas meter reading, meter temperature, and barometric pressure. Recover and analyze the contents of the midget impingers using the procedures in Method 6. Determine the average gas concentration reported by Method 6C for the run.

* * * * *

Method 7—Determination of Nitrogen Oxide Emissions From Stationary Sources

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
10.1	Spectrophotometer calibration	Ensure linearity of spectrophotometer response to standards.

* * * * *

12.1 Nomenclature

A = Absorbance of sample.
A_1 = Absorbance of the 100-µg NO_2 standard.
A_2 = Absorbance of the 200-µg NO_2 standard.
A_3 = Absorbance of the 300-µg NO_2 standard.
A_4 = Absorbance of the 400-µg NO_2 standard.
C = Concentration of NO_X as NO_2, dry basis, corrected to standard conditions, mg/dsm^3 (lb/dscf).
F = Dilution factor (*i.e.*, 25/5, 25/10, *etc.*, required only if sample dilution was needed to reduce the absorbance into the range of the calibration).
K_c = Spectrophotometer calibration factor.
M = Mass of NO_X as NO_2 in gas sample, µg.
P_f = Final absolute pressure of flask, mm Hg (in. Hg).
P_i = Initial absolute pressure of flask, mm Hg (in. Hg).
P_{std} = Standard absolute pressure, 760 mm Hg (29.92 in. Hg).
T_f = Final absolute temperature of flask, °K (°R).
T_i = Initial absolute temperature of flask, °K (°R).
T_{std} = Standard absolute temperature, 293 °K (528°R).
V_{sc} = Sample volume at standard conditions (dry basis), ml.
V_f = Volume of flask and valve, ml.
V_a = Volume of absorbing solution, 25 ml.

* * * * *

Method 7A—Determination of Nitrogen Oxide Emissions From Stationary Sources (Ion Chromatographic Method)

* * * * *

6.3 Analysis. For the analysis, the following equipment and supplies are required. Alternative instrumentation and procedures will be allowed provided the calibration precision requirement in Section 10.1.2 can be met.

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
10.1	Ion chromatographn calibration	Ensure linearity of ion chromatograph response to standards.

* * * * *

Method 7B—Determination of Nitrogen Oxide Emissions From Stationary Sources (Ultraviolet Spectrophotometric Method)

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
10.1	Spectrophotometer calibration	Ensures linearity of spectrophotometer response to standards.

* * * * *

Method 7C—Determination of Nitrogen Oxide Emissions From Stationary Sources (Alkaline Permanganate/Colorimetric Method)

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
8.2, 10.1–10.3	Sampling equipment leak-check and calibration	Ensure accurate measurement of sample volume.
10.4	Spectrophotometer calibration	Ensure linearity of spectrophotometer response to standards
11.3	Spiked sample analysis.	Ensure reduction efficiency of column.

* * * * *

Method 7D—Determination of Nitrogen Oxide Emissions From Stationary Sources—Alkaline-Permanganate/Ion Chromatographic Method

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
8.2, 10.1–10.3	Sampling equipment leak-check and calibration	Ensure accurate measurement of sample volume.
10.4	Spectrophotometer calibration	Ensure linearity of spectrophotometer response to standards.
11.3	Spiked sample analysis	Ensure reduction efficiency of column.

* * * * *

Method 8—Determination of Sulfuric Acid and Sulfur Dioxide Emissions From Stationary Sources

* * * * *

9.1 Miscellaneous Quality Control Measures

Section	Quality control measure	Effect
7.1.3	Isopropanol check	Ensure acceptable level of peroxide impurities in isopropanol.
8.4, 8.5, 10.1	Sampling equipment leak-check and calibration	Ensure accurate measurement of stack gas flow rate, sample volume.
10.2	Barium standard solution standardization	Ensure normality determination.
11.2	Replicate titrations	Ensure precision of titration determinations.

* * * * *

12.1 Nomenclature. Same as Method 5, Section 12.1, with the following additions and exceptions:

$C_{H_2SO_4}$ = Sulfuric acid (including SO_3) concentration, g/dscm (lb/dscf).

C_{SO_2} = Sulfur dioxide concentration, g/dscm (lb/dscf).

N = Normality of barium perchlorate titrant, meq/ml.

V_a = Volume of sample aliquot titrated, 100 ml for H_2SO_4 and 10 ml for SO_2.

V_{soln} = Total volume of solution in which the sample is contained, 250 ml for the SO_2 sample and 1000 ml for the H_2SO_4 sample.
V_t = Volume of barium standard solution titrant used for the sample, ml.
V_{tb} = Volume of barium standard solution titrant used for the blank, ml.

* * * * *

■ 7. In Appendix A–5 to part 60 amend Method 15A as follows:

■ a. Revise Section 9.0.

■ b. Remove Section 11.2.

Appendix A–5 to Part 60—Test Methods 11 Through 15A

* * * * *

Method 15A—Determination of Total Reduced Sulfur Emissions From Sulfur Recovery Plants in Petroleum Refineries

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
8.5	System performance check	Ensures validity of sampling train components and analytical procedure.
8.2, 10.0	Sampling equipment leak-check and calibration	Ensures accurate measurement of stack gas flow rate, sample volume.
10.0	Barium standard solution standardization	Ensures precision of normality determination.
11.1	Replicate titrations	Ensures precision of titration determinations.

* * * * *

■ 8. Amend Appendix A–6 to part 60 as follows:

■ a. Revise Method 16A as follows:

■ i. Revise Section 9.0.

■ ii. Remove Section 11.2.

■ b. Revise Method 18 as follows:

■ i. Remove Sections 7.2, including the note that follows, 8.2.1.5.2.2, and 8.2.1.7.

■ ii. Revise Section 8.2.2.2.

■ iii. Remove Sections 8.2.2.4, and 8.2.3.2.3.

■ iv. Revise Section 8.2.4.2.2.

■ v. Remove Sections 9.2 and 13.1(b).

■ vi. Revise "Gaseous Organic Sampling and Analysis Checklist" at the end of the appendix.

Appendix A–6 to Part 60—Test Methods 16 Through 18

* * * * *

Method 16A—Determination of Total Reduced Sulfur Emissions From Stationary Sources (Impinger Technique)

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
8.5	System performance check	Ensure validity of sampling train components and analytical procedure.
8.2, 10.0	Sampling equipment leak-check and calibration	Ensure accurate measurement of stack gas flow rate, sample volume.
10.0	Barium standard solution standardization	Ensure precision of normality determination.
11.1	Replicate titrations	Ensure precision of titration determinations.

* * * * *

Method 18—Measurement of Gaseous Organic Compound Emissions by Gas Chromatography

* * * * *

8.2.2.2 Procedure. Calibrate the GC using the procedures in Section 8.2.1.5.2.1. To obtain a stack gas sample, assemble the sampling system as shown in Figure 18–12. Make sure all connections are tight. Turn on the probe and sample line heaters. As the temperature of the probe and heated line approaches the target temperature as indicated on the thermocouple readout device, control the heating to maintain a temperature greater than 110 °C. Conduct a 3-point calibration of the GC by analyzing each gas mixture in triplicate. Generate a calibration curve. Place the inlet of the probe at the centroid of the duct, or at a point no closer to the walls than 1 m, and draw source gas into the probe, heated line, and sample loop. After thorough flushing, analyze the stack gas sample using the same conditions as for the calibration gas mixture. For each run, sample, analyze, and record five consecutive samples. A test consists of three runs (five samples per run times three runs, for a total of fifteen samples). After all samples have been analyzed, repeat the analysis of the mid-level calibration gas for each compound. For each calibration standard, compare the pre- and post-test average response factors (RF) for each compound. If the two calibration RF values (pre- and post-analysis) differ by more than 5 percent from their mean value, then analyze the other calibration gas levels for that compound and determine the stack gas sample concentrations by comparison to both calibration curves (this is done by preparing a calibration curve using all the pre- and post-test calibration gas mixture values.) If the two calibration RF values differ by less than 5 percent from their mean value, the tester has the option of using only the pre-test calibration curve to generate the concentration values. Record this calibration data and the other required data on the data sheet shown in Figure 18–11, deleting the dilution gas information.

Note: Take care to draw all samples and calibration mixtures through the sample loop at the same pressure.

* * * * *

8.2.4.2.2 Use a sample probe, if required, to obtain the sample at the centroid of the duct or at a point no closer to the walls than 1 m. Minimize the length of flexible tubing between the probe and adsorption tubes. Several adsorption tubes can be connected in series, if the extra adsorptive capacity is needed. Adsorption tubes should be maintained vertically during the test in order to prevent channeling. Provide the gas sample to the sample system at a pressure sufficient for the limiting orifice to function as a sonic orifice. Record the total time and sample flow rate (or the number of pump strokes), the barometric pressure, and ambient temperature. Obtain a total sample volume commensurate with the expected concentration(s) of the volatile organic(s) present and recommended sample loading factors (weight sample per weight adsorption media). Laboratory tests prior to actual sampling may be necessary to predetermine this volume. If water vapor is present in the sample at concentrations above 2 to 3 percent, the adsorptive capacity may be severely reduced. Operate the gas chromatograph according to the manufacturer's instructions. After establishing optimum conditions, verify and document these conditions during all operations. Calibrate the instrument and then analyze the emission samples.

* * * * *

GASEOUS ORGANIC SAMPLING AND ANALYSIS CHECK LIST (RESPOND WITH INITIALS OR NUMBER AS APPROPRIATE)

	Date
1. Pre-survey data	
A. Grab sample collected	☐ _____
B. Grab sample analyzed for composition	☐ _____
Method GC	☐ _____
GC/MS	☐ _____
Other_____	☐ _____
C. GC–FID analysis performed	☐ _____
2. Laboratory calibration curves prepared	☐ _____
A. Number of components	☐ _____
B. Number of concentrations per component (3 required)	☐ _____
C. OK obtained for field work	☐ _____
3. Sampling procedures.	
A. Method.	
Bag sample	☐ _____
Direct interface	☐ _____
Dilution interface	☐ _____
B. Number of samples collected	☐ _____
4. Field Analysis.	
A. Total hydrocarbon analysis performed	☐ _____
B. Calibration curve prepared	☐ _____
Number of components	☐ _____
Number of concentrations per component (3 required)	☐ _____

* * * * *

■ 9. Amend Appendix A–7 to part 60 as follows:

■ a. Revise Method 23 by removing Sections 8., 8.1., 8.2, 8.3, and 8.4.

■ b. Revise Method 25 as follows:

■ i. Remove Sections 7.5, 7.5.1, and 7.5.2., including the note that follows.

■ ii. Revise Section 9.0.

■ iii. Remove Sections 11.3, 11.3.1, 11.3.2, 11.3.3, 11.4, 11.4.1, 11.4.2, 11.4.3, and 11.4.4.

■ c. Revise Method 25C as follows:

■ i. Remove Sections 7.3, 7.3.1, and 7.3.2.

■ ii. Revise Section 9.1.

■ iii. Remove Sections 11.2, 11.2.1, 11.2.2, 11.3, 11.3.1, 11.3.2, 11.3.3, and 11.3.4.

■ d. Revise Method 25D by removing Sections 7.3, 7.3.1, 7.3.2, including the note that follows, 11.3, 11.3.1, 11.3.2, 11.3.3, 11.4, 11.4.1, 11.4.2.

Appendix A–7 to Part 60—Test Methods 19 Through 25E

* * * * *

Method 25—Determination of Total Gaseous Nonmethane Organic Emissions as Carbon

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
10.1.1	Initial performance check of condensate recovery apparatus.	Ensure acceptable condensate recovery efficiency.
10.1.2, 10.2	NMO analyzer initial and daily performance checks	Ensure precision of analytical results.

* * * * *

Method 25C—Determination of Nonmethane Organic Compounds (NMOC) in Landfill Gases

* * * * *

9.1 Miscellaneous Quality Control Measures

Section	Quality control measure	Effect
8.4.1	Verify that landfill gas sample contains less than 20 percent N_2 or 5 percent O_2.	Ensures that ambient air was not drawn into the landfill gas sample.
10.1, 10.2	NMOC analyzer initial and daily performance checks	Ensures precision of analytical results.

* * * * *

■ 10. Amend Appendix A–8 to part 60 as follows:

■ a. Revise Method 26 as follows:

■ i. Remove Section 7.3., including the note that follows.

■ ii. Revise Section 9.0.

■ iii. Remove Sections 11.2, 11.2.1, 11.2.2, 11.2.3, 11.3, 11.3.1, 11.3.2, 11.3.3, and 11.3.4.

■ b. Revise Method 26A as follows:

■ i. Remove Section 7.3., including the note that follows.

■ ii. Revise the first Section 9.1.

■ iii. Redesignate the second Section 9.1 as 9.2.

■ iv. Remove Sections 11.4, 11.4.1, 11.4.2, 11.4.3, 11.5, 11.5.1, 11.5.2, 11.5.3, and 11.5.4.

Appendix A–8 to Part 60—Test Methods 26 through 29

* * * * *

Method 26—Determination of Hydrogen Halide and Halogen Emissions From Stationary Sources Non-Isokinetic Method

* * * * *

9.0 Quality Control [Reserved]

* * * * *

Method 26A—Determination of Hydrogen Halide and Halogen Emissions From Stationary Sources Isokinetic Method

9.1 Miscellaneous Quality Control Measures

* * * * *

Section	Quality control measure	Effect
8.1.4, 10.1	Sampling equipment leak-check and calibration	Ensure accurate measurement of stack gas flow rate, sample volume.

* * * * *

PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

■ 11. The authority citation for Part 61 continues to read as follows:

Authority: 42 U.S.C. 7401, 7412, 7413, 7414, 7416, 7601, and 7602.

■ 12. Section 61.13 is amended by adding paragraph (e)(1) and adding and reserving paragraph (e)(2) to read as follows:

§ 61.13 Emission tests and waiver of emission tests.

* * * * *

(e) * * *

(1) The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

(i) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3C of Appendix A–3 of Part 60, Methods 6C, 7E, 9, and 10 of Appendix A–4 of Part 60, Method 18 of Appendix A–6 of Part 60, Methods 20, 22, and 25A of Appendix A–7 of Part 60, and Methods 303, 318, 320, and 321 of Appendix A of Part 63. If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. "Commercially available" means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, *www.epa.gov/ttn/emc,* to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering an audit sample, the source owner, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request and the compliance authority may grant a waiver to the requirement that a representative of the compliance authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance

authority and then report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

(ii) An AASP shall have and shall prepare, analyze, and report the true value of audit samples in accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:

(A) Preparing the sample;

(B) Confirming the true concentration of the sample;

(C) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range;

(D) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;

(E) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;

(F) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;

(G) Reporting the results from each audit sample in a timely manner to the compliance authority and to the source owner, operator, or representative by the AASP. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.

(H) Evaluating the acceptance limits of samples at least once every two years to determine in consultation with the voluntary consensus standard body if they should be changed;

(I) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

(iii) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that describes how audit or samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

(A) Checking audit samples to confirm their true value as reported by the AASP.

(B) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years.

(C) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.

(iv) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget *Circular A–119.* A copy of Circular A–119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395–6880 or downloading online at *http://standards.gov/standards_gov/a119.cfm.* The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in paragraphs (e)(1)(ii) through (iv) of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, *http://www.epa.gov/ttn/emc.*

(2) [Reserved]

* * * * *

Appendix B—[Amended]

■ 13. Amend Appendix B to part 61 as follows:

■ a. In Method 104 revise Section 9.

■ b. In Method 106 as follows:

■ i. Remove Sections 7.2.4, 7.2.4.1, including the note that follows, and 7.2.4.2.

■ ii. Revise Section 9.0.

■ iii. Remove Sections 9.1, 9.2, and 11.1.

■ c. In Method 108 as follows:

■ i. Remove Section 7.3.16., including the note that follows.

■ ii. Revise Section 9.1.

■ iii. Remove Sections 11.6, 11.6.1, 11.6.2, including the note that follows, 11.6.3, 11.7, 11.7.1, 11.7.2, 11.7.3, and 11.7.4.

■ iv. Revise Section 12.1.

d. In Method 108A as follows:

■ i. Remove Section 7.2.1.

■ ii. Revise Section 9.0.

■ iii. Remove Sections 11.6, 11.6.1, 11.6.2, including the note that follows, 11.6.3, 11.7, 11.7.1, 11.7.2, 11.7.3, and 11.7.4.

e. In Method 108B as follows:

■ i. Remove Section 7.2.5.

■ ii. Revise Section 9.0.

■ iii. Remove Section 11.5.

f. In Method 108C as follows:

■ i. Remove Sections 7.2.10.

■ ii. Revise Section 9.0.

■ iii. Remove Section 11.3.

g. In Method 111 as follows:

■ i. Revise Section 9.2.

■ ii. Revise Section 11.0.

■ iii. Remove Section 11.3.

Appendix B to Part 61—Test Methods

* * * * *

Method 104—Determination of Beryllium Emissions From Stationary Sources

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
8.4, 10.1	Sampling equipment leak checks and calibration	Ensure accuracy and precision of sampling measurements.
10.2	Spectrophotometer calibration	Ensure linearity of spectrophotometer response to standards.
11.5	Check for matrix effects	Eliminate matrix effects.

* * * * *

Method 106—Determination of Vinyl Chloride Emissions From Stationary Sources

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
10.3	Chromatograph calibration	Ensure precision and accuracy of chromatograph.

* * * * *

Method 108—Determination of Particulate and Gaseous Arsenic Emissions

* * * * *

9.0 Quality Control

9.1 Miscellaneous Quality Control Measures.

Section	Quality control measure	Effect
8.4, 10.1	Sampling equipment leak-checks and calibration	Ensures accuracy and precision of sampling measurements.
10.4	Spectrophotometer calibration	Ensures linearity of spectrophotometer response to standards.
11.5	Check for matrix effects	Eliminates matrix effects.

* * * * *

12.1 Nomenclature

B_{ws} = Water in the gas stream, proportion by volume.
C_a = Concentration of arsenic as read from the standard curve, µg/ml.
C_s = Arsenic concentration in stack gas, dry basis, converted to standard conditions, g/dsm³ (gr/dscf).
E_a = Arsenic mass emission rate, g/hr (lb/hr).
F_d = Dilution factor (equals 1 if the sample has not been diluted).
I = Percent of isokinetic sampling.
m_{bi} = Total mass of all four impingers and contents before sampling, g.
m_{fi} = Total mass of all four impingers and contents after sampling, g.
m_n = Total mass of arsenic collected in a specific part of the sampling train, µg.
m_t = Total mass of arsenic collected in the sampling train, µg.
T_m = Absolute average dry gas meter temperature (*see* Figure 108–2), °K (°R).
V_m = Volume of gas sample as measured by the dry gas meter, dry basis, m³ (ft³).
$V_{m(std)}$ = Volume of gas sample as measured by the dry gas meter, corrected to standard conditions, m³ (ft³).
V_n = Volume of solution in which the arsenic is contained, ml.
$V_{w(std)}$ = Volume of water vapor collected in the sampling train, corrected to standard conditions, m³ (ft³).
ΔH = Average pressure differential across the orifice meter (*see* Figure 108–2), mm H_2O (in. H_2O).

* * * * *

Method 108A—Determination of Arsenic Content in Ore Samples From Nonferrous Smelters

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
10.2	Spectrophotometer calibration	Ensure linearity of spectrophotometer response to standards.
11.5	Check for matrix effects	Eliminate matrix effects.

* * * * *

Method 108B—Determination of Arsenic Content in Ore Samples From Nonferrous Smelters

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
10.2	Spectrophotometer calibration	Ensure linearity of spectrophotometer response to standards.
11.4	Check for matrix effects	Eliminate matrix effects.

* * * * *

Method 108C—Determination of Arsenic Content in Ore Samples From Nonferrous Smelters (Molybdenum Blue Photometric Procedure)

* * * * *

9.0 Quality Control

Section	Quality control measure	Effect
10.2	Calibration curve preparation	Ensure linearity of spectrophotometric response to standards.

* * * * *

Method 111—Determination of Polonium—210 Emissions From Stationary Sources

* * * * *

9.2 Miscellaneous Quality Control Measures

Section	Quality control measure	Effect
10.1	Standardization of alpha spectrometry system	Ensure precision of sample analyses.
10.3	Standardization of internal proportional counter	Ensure precise sizing of sample aliquot.
11.1, 11.2	Determination of procedure background and instrument background.	Minimize background effects.

* * * * *

11.0 Analytical Procedure

Note: Perform duplicate analyses of all samples, including background counts and Method 5 samples. Duplicate measurements are considered acceptable when the difference between them is less than two standard deviations as described in EPA 600/4–77–001 or subsequent revisions.

* * * * *

PART 63—NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 14. The authority citation for part 63 continues to read as follows:

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

■ 15. Section 63.7 is amended by revising (c)(2)(iii) and removing paragraph (c)(4).

The revision reads as follows:

§ 63.7 Performance testing requirements.

* * * * *

(c) * * *

(2) * * *

(iii) The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

(A) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3C of Appendix A–3 of Part 60, Methods 6C, 7E, 9, and 10 of Appendix A–4 of Part 60, Method 18 of Appendix A–6 of Part 60, Methods 20, 22, and 25A of Appendix A–7 of Part 60, and Methods 303, 318, 320, and 321 of Appendix A of Part 63. If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. "Commercially available" means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult

the EPA Web site at the following URL, *http://www.epa.gov/ttn/emc*, to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering an audit sample, the source owner, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request and the compliance authority may grant a waiver to the requirement that a representative of the compliance authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance authority and then report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

(B) An AASP shall have and shall prepare, analyze, and report the true value of audit samples in accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:

(1) Preparing the sample;

(2) Confirming the true concentration of the sample;

(3) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range;

(4) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;

(5) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;

(6) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;

(7) Reporting the results from each audit sample in a timely manner to the compliance authority and to the source owner, operator, or representative by the AASP. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.

(8) Evaluating the acceptance limits of samples at least once every two years to determine in consultation with the voluntary consensus standard body if they should be changed.

(9) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

(C) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

(1) Checking audit samples to confirm their true value as reported by the AASP.

(2) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years.

(3) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.

(D) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget *Circular A–119*. A copy of Circular A–119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395–6880 or downloading online at *http://standards.gov/standards_gov/a119.cfm*. The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in paragraphs (c)(2)(iii)(B) through (C) of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, *http://www.epa.gov/ttn/emc*.

* * * * *

Appendix A to Part 63—[Amended]

■ 15. Amend Appendix A to Part 63 as follows:

■ a. In Method 306 by removing Sections 7.5, 7.5.1, 7.5.2, 9.1.8, 9.1.8.1, 9.1.8.2, 9.1.8.3, 9.1.9, 9.1.9.1, 9.1.9.2, 9.1.9.3, 9.1.9.4, 9.2.8, 9.2.8.1, 9.2.8.2, 9.2.8.3, 9.2.9, 9.2.9.1, 9.2.9.2, 9.2.9.3, 9.2.9.4, 9.3.6, 9.3.6.1, 9.3.6.2, 9.3.6.3, 9.3.7, 9.3.7.1, 9.3.7.2, 9.3.7.3, and 9.3.7.4.

■ b. In Method 306A by removing Sections 7.5, 7.5.1, and 7.5.2.

■ c. In Method 308 by removing Sections 9.2, 9.3, 9.4, and 9.5.

* * * * *

[FR Doc. 2010–21820 Filed 9–10–10; 8:45 am]

BILLING CODE 6560–50–P

in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);

- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

B. Submission to Congress and the Comptroller General

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. EPA will submit a report containing this action 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).

C. Petitions for Judicial Review

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by February 14, 2011. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. Parties with objections to this direct final rule are encouraged to file a comment in response to the parallel notice of proposed rulemaking for this action published in the proposed rules section of today's **Federal Register**, rather than file an immediate petition for judicial review of this direct final rule, so that EPA can withdraw this direct final rule and address the comment in the proposed rulemaking. This action pertaining to Delaware's portable fuel containers regulation may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: November 30, 2010.

W.C. Early,

Acting Regional Administrator, Region III.

■ 40 CFR part 52 is amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for part 52 continues to read as follows:

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

Subpart I—Delaware

■ 2. In § 52.420, the table in paragraph (c) is amended by revising the entry for Regulation 1141, Section 3.0 to read as follows:

§ 52.420 Identification of plan.

* * * * *

(c) * * *

EPA-APPROVED REGULATIONS IN THE DELAWARE SIP

State regulation (7 DNREC 1100)	Title/subject	State effective date	EPA approval date	Additional explanation
* *	*	* *	*	*
1141	Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products			
* *	*	* *	*	*
Section 3.0	Portable Fuel Containers	4/11/10	12/14/10 [Insert page number where the document begins].	
* *	*	* *	*	*

* * * * *

[FR Doc. 2010–31220 Filed 12–13–10; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2008–0334; FRL–9238–5]

National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; stay for permit applications.

SUMMARY: On June 15, 2010, EPA notified Petitioners that the Agency intended to initiate the reconsideration process in response to their request for reconsideration of certain provisions in the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources. Among the provisions that EPA is reconsidering

is a requirement that certain affected sources obtain a permit. EPA is staying until March 14, 2011, the requirement for certain affected sources to comply with the title V permit program. Because we believe the reconsideration process may not be completed within 90 days, we are also proposing in a separate notice to stay the provision requiring certain sources to obtain a permit after the final reconsideration rule is published in the **Federal Register**.

DATES: Effective December 14, 2010, 40 CFR 63.11494(e) of subpart VVVVVV is stayed until March 14, 2011.

FOR FURTHER INFORMATION CONTACT: Mr. Randy McDonald, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Coatings and Chemicals Group (E143–01), Environmental Protection Agency, Research Triangle Park, NC 27711, telephone number: (919) 541–5402; fax number: (919) 541–0246; e-mail address: *mcdonald.randy@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. Background

The EPA published final National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources on October 29, 2009. 40 CFR part 63, subpart VVVVVV (74 FR 56008). Included in the final rule was a new provision requiring any major source that had installed a control device on a chemical manufacturing process unit after November 15, 1990, and, as a result, became an area source under CFR 40 part 63, obtain a title V permit under 40 CFR part 70 or 40 CFR part 71. 40 CFR 63.11494(e).

On February 12, 2010, the American Chemistry Council and the Society of Chemical Manufacturers and Affiliates (collectively referred to as "Petitioners") sought reconsideration of six provisions in the final rule, including the provision requiring certain sources to obtain a title V permit. On June 15, 2010, EPA notified Petitioners that the Agency intended to initiate the reconsideration process. EPA also separately notified Petitioners that the provision requiring certain sources to obtain a title V permit was among the provisions for which EPA would grant reconsideration.

By letter dated October 28, 2010, Petitioners requested a stay of the requirement to comply with the title V permit program, specifically the requirement to submit a title V permit application, pending completion of the reconsideration process. Petitioners stated in their letter that they were requesting the stay because, "under one interpretation of EPA's [40 CFR part 70 and 40 CFR part 71] regulations, existing sources must file title V permit applications: October 29, 2010." Petitioners maintained that it would be unreasonable and inequitable to require facilities to prepare and submit title V applications at the same time that EPA is reconsidering the requirement to obtain a title V permit. As explained below, EPA believes that it is appropriate to stay the effectiveness of the requirement in 40 CFR 63.11494(e) for certain sources to obtain a title V permit during the pendency of the reconsideration process.

Pursuant to Clean Air Act (CAA) section 307(d)(7)(B), EPA is staying for 90 days the provision in 40 CFR 63.11494(e) that requires "[a]ny source that was a major source and installed a control device on a CMPU [1] after November 15, 1990, and, as a result, became an area source under 40 CFR part 63 is required to obtain a permit under 40 CFR part 70 or 40 CFR part 71." This provision was first introduced in the final rule and represented a significant change from the proposal. Facilities had no chance to comment on this new requirement in the final rule. We are staying this provision because both the affected universe of sources and the substantive requirement could change as a result of this reconsideration process. Specifically, we will be reconsidering whether the affected sources noted above should be subject to title V, or whether they should be exempt from title V requirements. Because we cannot pre-judge the outcome of the reconsideration process, we think a limited stay during the duration of the administrative reconsideration process is appropriate so that sources are not incurring the cost associated with applying for a title V permit in advance of our final decision on the issue.

EPA believes that it may not be able to complete the reconsideration process within the 3-month stay period authorized in CAA section 307(d)(7)(B). For this reason, we are also proposing in a separate notice to stay the provision requiring certain sources to obtain a permit under 40 CFR part 70 or 40 CFR part 71 until the final reconsideration rule is published in the **Federal Register**.

II. Statutory and Executive Order Reviews

A. General Requirements

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action," and, therefore, is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). In addition, this action does not impose any enforceable duty or contain any unfunded mandate as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104–4), or require prior consultation with State officials, as specified by Executive Order 12875 (58 FR 58093, October 28, 1993), or involve special consideration of environmental justice related issues, as required by Executive Order 12898 (59 FR 7629, February 16, 1994). Because this action is not subject to notice-and-comment requirements under the Administrative Procedure Act or any other statute, it is not subject to the regulatory flexibility provisions of the Regulatory Flexibility Act (5 U.S.C. 601, *et seq.*). This action also does not have Tribal implications because it will not have a substantial direct effect on one or more Indian Tribes, on the relationship between the Federal government and Indian Tribes, or on the distribution of power and responsibilities between the Federal government and Indian Tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). This action also does not have Federalism implications because it does 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 (64 FR 43255, August 10, 1999). This action also is not subject to Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997). The requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, *et seq.*). EPA's compliance with these statutes and Executive Orders for the underlying rule is discussed in the October 29, 2009, **Federal Register** document.

B. Submission to Congress and the Comptroller General

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

[1] Chemical manufacturing process unit.

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. EPA will submit a report containing this notice 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 rule in the **Federal Register**. The stay of these particular provisions in 40 CFR subpart VVVVVV 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, Monitoring, Reporting and recordkeeping.

Dated: December 7, 2010.

Lisa P. Jackson,

Administrator.

■ For the reasons stated in the preamble, title 40, chapter I 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.*

§ 63.11494 [STAYED IN PART]

■ 2. In § 63.11494, paragraph (e) is stayed from December 14, 2010 until March 14, 2011.

[FR Doc. 2010–31327 Filed 12–13–10; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

44 CFR Part 67

[Docket ID FEMA–2010–0003]

Final Flood Elevation Determinations

AGENCY: Federal Emergency Management Agency, DHS.

ACTION: Final rule.

SUMMARY: Base (1% annual-chance) Flood Elevations (BFEs) and modified BFEs are made final for the communities listed below. The BFEs and modified BFEs are the basis for the floodplain management measures that each community is required either to adopt or to show evidence of being already in effect in order to qualify or remain qualified for participation in the National Flood Insurance Program (NFIP).

DATES: The date of issuance of the Flood Insurance Rate Map (FIRM) showing BFEs and modified BFEs for each community. This date may be obtained by contacting the office where the maps are available for inspection as indicated in the table below.

ADDRESSES: The final BFEs for each community are available for inspection at the office of the Chief Executive Officer of each community. The respective addresses are listed in the table below.

FOR FURTHER INFORMATION CONTACT: Luis Rodriguez, Chief, Engineering Management Branch, Federal Insurance and Mitigation Administration, Federal Emergency Management Agency, 500 C Street, SW., Washington, DC 20472, (202) 646–4064, or (e-mail) *luis.rodriguez1@dhs.gov.*

SUPPLEMENTARY INFORMATION: The Federal Emergency Management Agency (FEMA) makes the final determinations listed below for the modified BFEs for each community listed. These modified elevations have been published in newspapers of local circulation and ninety (90) days have elapsed since that publication. The Deputy Federal Insurance and Mitigation Administrator has resolved any appeals resulting from this notification.

This final rule is issued in accordance with section 110 of the Flood Disaster Protection Act of 1973, 42 U.S.C. 4104, and 44 CFR part 67. FEMA has developed criteria for floodplain management in floodprone areas in accordance with 44 CFR part 60.

Interested lessees and owners of real property are encouraged to review the proof Flood Insurance Study and FIRM available at the address cited below for each community. The BFEs and modified BFEs are made final in the communities listed below. Elevations at selected locations in each community are shown.

National Environmental Policy Act. This final rule is categorically excluded from the requirements of 44 CFR part 10, Environmental Consideration. An environmental impact assessment has not been prepared.

Regulatory Flexibility Act. As flood elevation determinations are not within the scope of the Regulatory Flexibility Act, 5 U.S.C. 601–612, a regulatory flexibility analysis is not required.

Regulatory Classification. This final rule is not a significant regulatory action under the criteria of section 3(f) of Executive Order 12866 of September 30, 1993, Regulatory Planning and Review, 58 FR 51735.

Executive Order 13132, Federalism. This final rule involves no policies that have federalism implications under Executive Order 13132.

Executive Order 12988, Civil Justice Reform. This final rule meets the applicable standards of Executive Order 12988.

List of Subjects in 44 CFR Part 67

Administrative practice and procedure, Flood insurance, Reporting and recordkeeping requirements.

■ Accordingly, 44 CFR part 67 is amended as follows:

PART 67—[AMENDED]

■ 1. The authority citation for part 67 continues to read as follows:

Authority: 42 U.S.C. 4001 *et seq.;* Reorganization Plan No. 3 of 1978, 3 CFR, 1978 Comp., p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp., p. 376.

§ 67.11 [Amended]

■ 2. The tables published under the authority of § 67.11 are amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for 40 CFR part 52 continues to read as follows:

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

Subpart VV—Virginia

■ 2. In § 52.2420, the table in paragraph (c) is amended by revising the entry for Section 5–30–55 and by adding the entry for Section 5–30–56. The table in paragraph (e) is amended by adding an entry for "Documents Incorporated by Reference" after the ninth existing entry for "Documents Incorporated by Reference." The amendments read as follows:

§ 52.2420 Identification of plan.

* * * * *

(c) * * *

EPA-APPROVED VIRGINIA REGULATIONS AND STATUTES

State citation	Title/subject	State effective date	EPA approval date	Explanation [former SIP citation]
*	* * * *	*	*	*
	9 VAC 5, Chapter 30 Ambient Air Quality Standards [Part III]			
*	* * * *	*	*	*
5–30–55	Ozone (8-hour, 0.08 ppm)	6/24/09	1/18/11 [Insert page number where the document begins].	Revised section.
5–30–56	Ozone (8-hour, 0.075 ppm)	6/24/09	1/18/11 [Insert page number where the document begins].	Added section.
*	* * * *	*	*	*

* * * * *

(e) * * *

Name of non-regulatory SIP revision	Applicable geographic area	State submittal date	EPA approval date	Additional explanation
*	* * *	*	*	*
Documents Incorporated by Reference (9 VAC 5–20–21, Sections B and E.1.).	Statewide	9/27/10	1/18/11 [Insert page number where the document begins].	Revised sections.
*	* * *	*	*	*

* * * * *

[FR Doc. 2011–487 Filed 1–14–11; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA–HQ–OAR–2002–0051; EPA–HQ–OAR–2007–0877; FRL–9253–4]

RIN 2060–AQ59

National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct Final rule; amendments.

SUMMARY: The EPA is taking direct final action on amendments to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) from the Portland Cement Manufacturing Industry and Standards of Performance (NSPS) for Portland Cement Plants. The final rules were published on September 9, 2010. This direct final action amends certain regulatory text to clarify compliance dates and clarifies that the previously issued emission limits that were changed in the September 9, 2010, action remain in effect until sources are required to comply with the revised limits. We are also correcting two minor typographical errors in the regulatory text to the September 9, 2010 action.

DATES: The direct final rule is effective on March 21, 2011, without further notice, unless EPA receives significant adverse written comment by February 17, 2011, or if a public hearing is requested by February 2, 2011. If significant adverse comments are received, EPA will publish a timely withdrawal in the **Federal Register** clarifying which provisions will become effective and which provisions are being withdrawn due to adverse comment.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2002–0051, by one of the following methods:

- *http://www.regulations.gov:* Follow the on-line instructions for submitting comments.
- *E-mail: a-and-r-docket@epa.gov.*
- *Fax:* (202) 566–9744.
- *Mail:* U.S. Postal Service, send comments to: EPA Docket Center (6102T), National Emission Standards for Hazardous Air Pollutant From the Portland Cement Manufacturing Industry Docket, Docket ID No. EPA–HQ–OAR–2002–0051, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Please include a total of two

copies. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), *Attn:* Desk Officer for EPA, 725 17th St., NW., Washington, DC 20503.

- *Hand Delivery:* In person or by courier, deliver comments to: EPA Docket Center (6102T), Standards of Performance (NSPS) for Portland Cement Plants Docket, Docket ID No. EPA–HQ–OAR–2002–0051, EPA West, Room 3334, 1301 Constitution Avenue, NW., Washington, DC 20004. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information. Please include a total of two copies.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2002–0051. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov,* your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the EPA Docket Center, National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry Docket, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Mr. Keith Barnett; Office of Air Quality Planning and Standards; Sector Policies and Programs Division, Metals and Minerals Group (D243–02); Environmental Protection Agency; Research Triangle Park, NC 27711; telephone number: (919) 541–5605; fax number: (919) 541–5450; e-mail address: *barnett.keith@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. What is the background for the amendments?

On September 9, 2010 (75 FR 54970), EPA issued final amendments to National Emission Standards for Hazardous Air Pollutants (NESHAP) from the Portland Cement Manufacturing Industry and Review of New Source Performance Standards (NSPS) for Portland Cement Plants. EPA subsequently determined that the final rule amendments were unclear in certain areas. First, compliance dates are unclear for some sources. Second, the final rule amendments did not make clear that emission limits currently in effect for existing sources remain in effect until the compliance date of the September 9, 2010, emission standards. Third, we inadvertently omitted a required rule reference in an incorporation by reference provision. Finally, this direct final rule will correct a typographical error in Table 1 of § 63.1343(b). This action makes these clarifications and corrects these errors.

We are issuing the amendments as a direct final rule, without a prior proposal, because we view the revisions as noncontroversial and anticipate no adverse comment. However, in the Proposed Rules section of this **Federal Register** notice, we are publishing a separate document that will serve as the proposal to amend the NESHAP and NSPS for cement production if significant adverse comments are filed.

II. What are the changes to the final rules (75 FR 54970)?

This direct final rule changes the following provisions. In § 63.1351(b) we establish a compliance date for existing sources of three years from publication of the final rule in the **Federal Register** for the particulate matter (PM), total hydrocarbons (THC), hydrochloric acid (HCl), and mercury emissions limits. However, we also made other changes to rule requirements, which included regulating open clinker piles and changing the requirements for opacity measurements. Because the rule text did not include specific compliance dates for these other requirements, there is uncertainty as to the compliance dates as applied to existing sources—for example, whether there is an unstated (and unintended) implication that compliance dates for standards and other changes not enumerated explicitly are different from three years after promulgation. EPA in fact intended that the same compliance date apply for all changes to rule requirements for existing sources. This is evident since EPA indicated generally that it was establishing a compliance date of three years for the September 9, 2010, requirements for existing sources (75 FR at 54993), and never discussed or otherwise suggested (in either the proposed or final rule) any alternative compliance date. We have now modified § 63.1351 to clarify that all of the amendments of standards for existing sources have a compliance date of three years from promulgation. In addition, we are clarifying the rule text to make clear that the compliance date for the monitoring requirements associated with the September 9, 2010, emission standards, including requirements for measuring clinker production, is three years from promulgation.

In establishing the September 9, 2010, standards for existing cement kilns, it was not our intention to remove the existing emissions limits for these kilns adopted by EPA in 1999 and 2006. No such change was proposed, discussed, or contemplated by EPA or by any commenter. However, due to a drafting error, these provisions were inadvertently deleted. In this action we are restoring the kiln, clinker cooler, and raw material dryer emissions limits as they existed prior to the September 9, 2010, rule amendments. This includes both the new and existing source emissions limits that existed prior to September 9, 2010. Kilns that are now defined as existing sources for the mercury and THC limits promulgated on September 9, 2010, will

still be required to meet the new source standards promulgated on December 20, 2006 (71 FR 76518), if they were subject to these emissions limits, until the compliance date for the limits promulgated on September 9, 2010, has passed. Once the compliance date for any emissions limit changed on September 9, 2010, has passed, the previous limit no longer applies.

In the Incorporation by Reference section of Part 60 subpart A, we inadvertently omitted a reference to § 60.257(b)(3), which was previously incorporated in paragraph § 60.17(h)(4). In this notice, we are adding this reference to that paragraph.

Finally, on Table 1 of § 63.1343 entry 16 in the column titled, "And if it is located," we failed to include the words "At a major source" in entry 16. We are adding this language to the table.

III. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866, Regulatory Planning and Review (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and is, therefore, not subject to review by the Office of Management and Budget (OMB). (*See* 75 FR 55029–30) This action is a correction to certain text in the final rules and is not a "major rule" as defined by 5 U.S.C. 804(2). However, the final rules promulgated on September 9, 2010, were reviewed by OMB.

B. Paperwork Reduction Act

This action does not impose any new information collection burden. This action adds clarifications and corrections the final standards. However, the Office of Management and Budget (OMB) has previously approved the information collection requirements contained in the existing regulations (75 FR 54970, September 9, 2010) under the provisions of the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* and has assigned OMB control numbers 2060–0416 and 2060–0614. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (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 impact of this rule on small entities, small entity is defined as: (1) A small business whose parent company has no more than 750 employees depending on the size definition for the affected NAICS code (as defined by Small Business Administration (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; 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.

After considering the economic impact of this direct final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities because it does not add any additional regulatory requirements.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act (UMRA), 2 U.S.C 1531–1538, requires Federal agencies, unless otherwise prohibited by law, to assess the effects of their regulatory actions on State, local, and Tribal governments and the private sector. Federal agencies must also develop a plan to provide notice to small governments that might be significantly or uniquely affected by any regulatory requirements. The plan must enable officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates and must inform, educate, and advise small governments on compliance with the regulatory requirements.

This direct final 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 one year. Thus, this final rule is not subject to the requirements of section 202 and 205 of the UMRA.

This final action is also not subject to the requirements of section 203 of the UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This final action contains no requirements that apply to such governments, imposes no obligations upon them, and will not result in expenditures by them of $100 million or more in any one year or any disproportionate impacts on them.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" 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."

This direct 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. None of the affected facilities are owned or operated by State governments. Thus, Executive Order 13132 does not apply to these final rules.

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

Subject to the Executive Order 13175 (65 FR 67249, November 9, 2000) EPA may not issue a regulation that has Tribal 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 Tribal governments, or EPA consults with Tribal officials early in the process of developing the regulation and develops a Tribal summary impact statement.

This direct final rule does not have Tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have substantial direct effects on Tribal governments, on the relationship between the Federal government and Indian Tribes, or on the distribution of power and responsibilities between the Federal government and Indian Tribes, as specified in Executive Order 13175. The final rule imposes no new requirements on the one Tribally owned facility. Thus, Executive Order 13175 does not apply to this action.

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

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as

applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it is based solely on technology performance.

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

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

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

This action does not involve changes to the technical standards related to test methods or monitoring methods; thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272) do not apply.

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

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

The direct final rule does not involve special consideration of environmental justice-related issues as required by Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629, February 16, 1994), because it does not change any regulatory requirements. This action merely corrects and clarifies existing requirements.

K. 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. 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). This correction is effective March 21, 2011.

List of Subjects

40 CFR Part 60

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

40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: January 10, 2011.

Lisa P. Jackson,

Administrator.

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

PART 60—[AMENDED]

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

Authority: 23 U.S.C. 101; 42 U.S.C. 7401–7671q.

Subpart A—[Amended]

■ 2. Section 60.17 is amended by revising paragraph (h)(4) to read as follows:

§ 60.17 Incorporations by reference.

* * * * *

(h) * * *

(4) ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], IBR approved for § 60.56c(b)(4) of subpart Ec, § 60.63(f)(2) and (f)(4) of subpart F, § 60.106(e)(2) of subpart J, §§ 60.104a(d)(3), (d)(5), (d)(6), (h)(3), (h)(4), (h)(5), (i)(3), (i)(4), (i)(5), (j)(3), and (j)(4), 60.105a(d)(4), (f)(2), (f)(4), (g)(2), and (g)(4), 60.106a(a)(1)(iii), (a)(2)(iii), (a)(2)(v), (a)(2)(viii), (a)(3)(ii), and (a)(3)(v), and 60.107a(a)(1)(ii), (a)(1)(iv), (a)(2)(ii), (c)(2), (c)(4), and (d)(2) of subpart Ja, § 60.257(b)(3) of Subpart Y, tables 1 and 3 of subpart EEEE, tables 2 and 4 of subpart FFFF, table 2 of subpart JJJJ, and § 60.4415(a)(2) and (a)(3) of subpart KKKK of this part.

PART 63—[AMENDED]

■ 3. The authority citation for part 63 continues to read as follows:

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

Subpart LLL—[Amended]

■ 4. Section 63.1343 is amended by revising entry 16 of Table 1 in paragraph (b)(1) and adding paragraph (e) to read as follows:

§ 63.1343 What standards apply to my kilns, clinker coolers, raw material dryers, and open clinker piles?

* * * * *

(b)(1) * * *

TABLE 1—EMISSIONS LIMITS FOR KILNS (ROWS 1–8), CLINKER COOLERS (ROWS 9–12), RAW MATERIAL DRYERS (ROWS 13–15), RAW AND FINISH MILLS (ROW 16)

	If your source is	And the operating mode is:	And if is located	Your emissions limits are:	And the units of the emissions limit are:	The oxygen correction factor is:
*	*	*	*	*	*	*
16	An Existing or new raw or finish mill.	All operating modes	At a major source	Opacity-10	percent	NA.
*	*	*	*	*	*	*

* * * * *

(e) Emissions limits in effect prior to September 9, 2010. Any source defined as an existing source in § 63.1351, and that was subject to a PM, mercury, THC, D/F, or opacity emissions limit prior to September 9, 2010, must continue to meet the limits shown in Table 2 to this section until September 9, 2013.

TABLE 2—EMISSIONS LIMITS IN EFFECT PRIOR TO SEPTEMBER 9, 2010, FOR KILNS (ROWS 1–4), CLINKER COOLERS (ROW 5), AND RAW MATERIAL DRYERS (ROWS 6–9).

If your source is	and	And if it is located at	Your emissions limits are[1]:	And the units of the emissions limit are:
1. An existing kiln	it commenced construction or reconstruction on or prior to December 2, 2005.	A major source	PM—0.3 ..... Opacity—20 D/F—0.2[2] .... THC—50[3][4]	lb/ton feed percent ng/dscm (TEQ) ppmvd.
2. An existing kiln	it commenced construction or reconstruction after December 2, 2005.	A major source	PM—0.3 ..... Opacity—20 D/F—0.2[2] .... THC—20[3][5] Mercury—41[6].	lb/ton feed percent ng/dscm (TEQ) ppmvd ug/dscm.
3. An existing kiln	it commenced construction or reconstruction on or prior to December 2, 2005.	An area source	D/F—0.2[2] .... THC—50[3][4]	ng/dscm (TEQ) ppmvd.
4. An existing kiln	it commenced construction or reconstruction after December 2, 2005.	An area source	D/F—0.2[2] .... THC—20[3][5] Mercury—41[6].	ng/dscm (TEQ) ppmvd ug/dscm.
5. An existing clinker cooler	NA	A major source	PM—0.1 ..... Opacity—10	lb/ton feed percent.
6. An existing raw material dryer ..	it commenced construction or reconstruction on or prior to December 2, 2005.	A major source	THC—50[3][4] Opacity—10	ppmvd percent.
7. An existing raw material dryer ..	it commenced construction or reconstruction after December 2, 2005.	A major source	THC—20[3][5] Opacity—10	ppmvd percent.
8. An existing raw material dryer ..	it commenced construction or reconstruction on or prior to December 2, 2005.	An area source	THC—50[3][4]	ppmvd.
9. An existing raw material dryer ..	it commenced construction or reconstruction after December 2, 2005.	An area source	THC—20[3][5]	ppmvd.

[1] All emission limits expressed as a concentration basis (ppmvd, ng/dscm) are corrected to seven percent oxygen.
[2] If the average temperature at the inlet to the first particulate matter control device (fabric filter or electrostatic precipitator) during the D/F performance test is 400 °F or less, this limit is changed to 0.4 ng/dscm (TEQ).
[3] Measured as propane.
[4] Only applies to Greenfield kilns or raw material dryers.
[5] As an alternative, a source may demonstrate a 98 percent reduction in THC emissions from the exit of the kiln or raw material dryer to discharge to the atmosphere. Inline raw mills are considered to be an integral part of the kiln.
[6] As an alternative, a source may route the emissions through a packer bed or spray tower wet scrubber with a liquid-to-gas ratio of 30 gallons per 1000 actual cubic feet per minute or more and meet a site-specific emission limit based on the measured performance of the wet scrubber.

■ 5. Section 63.1350 is amended by revising paragraph (d)(2) to read as follows:

§ 63.1350 Monitoring requirements.

* * * * *

(d) * * *

(2) Determine, record, and maintain a record of the accuracy of the system of measuring hourly clinker production (or feed mass flow if applicable). During each quarter of source operation, you must determine, record, and maintain a record of the ongoing accuracy of the system of measuring hourly clinker production (or feed mass flow).

* * * * *

■ 6. Section 63.1351 is revised to read as follows:

§ 63.1351 Compliance dates.

(a) The compliance date for any affected existing source subject to any rule requirements that were in effect before December 20, 2006, is:

(1) June 14, 2002, for sources that commenced construction before or on March 24, 1998, or

(2) June 14, 1999 or startup for sources that commenced construction after March 24, 1998.

(b) The compliance date for any affected existing source subject to any rule requirements that became effective on December 20, 2006, is:

(1) December 21, 2009, for sources that commenced construction after December 2, 2005 and before or on December 20, 2006, or

(2) Startup for sources that commenced construction after December 20, 2006.

(c) The compliance date for existing sources for all the requirements that became effective on November 8, 2010 will be September 9, 2013.

(d) The compliance date for new sources is November 9, 2010 or startup, whichever is later.

[FR Doc. 2011–759 Filed 1–14–11; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

44 CFR Part 65

[Docket ID FEMA–2011–0002; Internal Agency Docket No. FEMA–B–1172]

Changes in Flood Elevation Determinations

AGENCY: Federal Emergency Management Agency, DHS.

ACTION: Interim rule.

SUMMARY: This interim rule lists communities where modification of the Base (1% annual-chance) Flood Elevations (BFEs) is appropriate because of new scientific or technical data. New flood insurance premium rates will be calculated from the modified BFEs for new buildings and their contents.

DATES: These modified BFEs are currently in effect on the dates listed in the table below and revise the Flood Insurance Rate Maps (FIRMs) in effect prior to this determination for the listed communities.

From the date of the second publication of these changes in a newspaper of local circulation, any person has ninety (90) days in which to request through the community that the Deputy Federal Insurance and Mitigation Administrator reconsider the changes. The modified BFEs may be changed during the 90-day period.

ADDRESSES: The modified BFEs for each community are available for inspection at the office of the Chief Executive Officer of each community. The respective addresses are listed in the table below.

FOR FURTHER INFORMATION CONTACT: Luis Rodriguez, Chief, Engineering Management Branch, Federal Insurance and Mitigation Administration, Federal Emergency Management Agency, 500 C Street, SW., Washington, DC 20472, (202) 646–4064, or (e-mail) *luis.rodriguez1@dhs.gov.*

SUPPLEMENTARY INFORMATION: The modified BFEs are not listed for each community in this interim rule. However, the address of the Chief Executive Officer of the community where the modified BFE determinations are available for inspection is provided.

Any request for reconsideration must be based on knowledge of changed conditions or new scientific or technical data.

The modifications are made pursuant to section 201 of the Flood Disaster Protection Act of 1973, 42 U.S.C. 4105, and are in accordance with the National Flood Insurance Act of 1968, 42 U.S.C. 4001 *et seq.*, and with 44 CFR part 65.

For rating purposes, the currently effective community number is shown and must be used for all new policies and renewals.

The modified BFEs are the basis for the floodplain management measures that the community is required either to adopt or to show evidence of being already in effect in order to qualify or to remain qualified for participation in the National Flood Insurance Program (NFIP).

These modified BFEs, together with the floodplain management criteria required by 44 CFR 60.3, are the minimum that are required. They should not be construed to mean that the community must change any existing ordinances that are more stringent in their floodplain management requirements. The community may at any time enact stricter requirements of its own or pursuant to policies established by other Federal, State, or regional entities. The changes in BFEs are in accordance with 44 CFR 65.4.

National Environmental Policy Act. This interim rule is categorically excluded from the requirements of 44 CFR part 10, Environmental Consideration. An environmental impact assessment has not been prepared.

Regulatory Flexibility Act. As flood elevation determinations are not within the scope of the Regulatory Flexibility Act, 5 U.S.C. 601–612, a regulatory flexibility analysis is not required.

Regulatory Classification. This interim rule is not a significant regulatory action under the criteria of section 3(f) of Executive Order 12866 of September 30, 1993, Regulatory Planning and Review, 58 FR 51735.

Executive Order 13132, Federalism. This interim rule involves no policies that have federalism implications under Executive Order 13132, Federalism.

Executive Order 12988, Civil Justice Reform. This interim rule meets the applicable standards of Executive Order 12988.

List of Subjects in 44 CFR Part 65

Flood insurance, Floodplains, Reporting and recordkeeping requirements.

Accordingly, 44 CFR part 65 is amended to read as follows:

PART 65—[AMENDED]

■ 1. The authority citation for part 65 continues to read as follows:

Authority: 42 U.S.C. 4001 *et seq.;* Reorganization Plan No. 3 of 1978, 3 CFR, 1978 Comp., p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp., p. 376.

§ 65.4 [Amended]

■ 2. The tables published under the authority of § 65.4 are amended as follows:

State and county	Location and case No.	Date and name of newspaper where notice was published	Chief executive officer of community	Effective date of modification	Community No.
Arizona: Maricopa ..	City of Peoria (10–09–1908P).	October 21, 2010, October 28, 2010, *Arizona Business Gazette.*	The Honorable Bob Barrett, Mayor, City of Peoria, 8401 West Monroe Street, Peoria, AZ 85345.	Oct. 15, 2010	040050

ORIGINAL

BEFORE THE WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

In re: Revisions to Rule 45CSR34 - Emission Standards for Hazardous Air Pollutants

Transcript of proceedings had at a public hearing in the above-styled matter taken at the West Virginia Department of Environmental Protection, Division of Air Quality, Conference Room, 601 57th Street, S.E. Charleston, West Virginia, commencing at 7:12 p.m., on the 11th day of July, 2011, pursuant to notice.

MISSY L. YOUNG, C.C.R.
POST OFFICE BOX 6296
CHARLESTON, WEST VIRGINIA 25362
304-205-4929 or 304-539-6192

PROCEEDINGS

MR. MASON: This public hearing will now come to order on this 11th day of July, 2011, at the West Virginia Department of Environmental Protection Headquarters. Comments and testimony will be accepted until the close of this hearing and will be made part of the rulemaking record. Any question regarding revisions to the rules will be included with your comments, and any such question will be answered as part of the response to comments in the rulemaking record.

The purpose of this public hearing is to satisfy state rulemaking requirements by accepting comments on proposed revisions to rule 45CSR34 -Emission Standards for Hazardous Air Pollutants.

This rule incorporates and adopts national emission standards for hazardous air pollutants and other regulatory requirements promulgated by the EPA pursuant to the federal Clean Air Act. Promulgation of this rule is necessary for the State to fulfill its responsibilities under the Clean Air Act, and will enable the Department of Environmental Protection to continue to be the primary enforcement authority for such national emission standards promulgated by EPA. Revisions to the rule include annual

incorporation of federal counterpart regulations.

The floor is now open for comments. There being nothing further, this public hearing for proposed rule 45CSR34 is concluded.

(WHEREUPON, the hearing was concluded at 7:14 p.m.)

STATE OF WEST VIRGINIA,

COUNTY OF KANAWHA, to-wit:

I, the undersigned, Missy L. Young, a Certified Court Reporter and Notary Public within and for the State of West Virginia, duly commissioned and qualified, do hereby certify that the foregoing, was taken to the best of my skill and ability, a true and accurate transcript of all the proceedings had in the aforementioned matter.

Given under my hand and official seal this 13th day of July 2011.

Missy L. Young, CCR

Certified Court Reporter
Notary Public for the State of West Virginia

My commission expires April 15, 2018.

OFFICIAL SEAL
Notary Public, State Of West Virginia
MISSY L. YOUNG, C.C.R.
PO BOX 6296
CHARLESTON, WV 25312
My Commission Expires April 15, 2018

dep

west virginia department of environmental protection

SIGN-IN SHEET

Public Hearing on the Division of Air Quality Rules 45CSR8, 45CSR14, 45CSR16, 45CSR18, 45CSR19, 45CSR25, 45CSR30, 45CSR34, 45CSR35 and 45CSR42

July 11, 2011, 6:00 p.m.

The Department of Environmental Protection asks for the information below so that agency staff may provide responses and information about decisions to you. The information you voluntarily provide on this sheet becomes part of the public record related to this topic and may be released if requested under the Freedom of Information Act.

Name (please print)	Address	Organization	Phone	E-mail	Comment Y/N
Randy Kesling	RT 2 Box 427 Bridgeport WV 26330	Trout Unlimited	3046225952	RKesling@MH.RR.com	N
Pam Nixon		WV-DEP			
Mary Anne Mauk	1428 Lee St E Ste 2 Charleston WV 25301	PLLC	304-343-2816	maryannemauk@yahoo.com	Y
Jim Kotcon	414 Tyrone Avery Road Morgantown WV 26508	Sierra Club	304 594 3322	JKotcon@wvu.edu	Y
Mike Manypenny	Rt 3 Box 202 Grafton, WV 26354	House of Delegates	677-0379	mike.manypenny@wvlegislature.gov	maybe
John Christensen	512 Stoney Lick Rd. Martinsburg WV 25403	C-COUNCIL	304-754-8505	JBC4RE@YAHOO.com	N
Renee Hernandez	224 Overdale St Apt A Morgantown WV 26501	WV 4 MOM	304 241-5675	cry_liberty@yahoo.com	-
Dan Cacpeo	4 Ridgell Dr Glenmoore	N E-Council	472 3704	-	Y

Promoting a healthy environment.

45CSR34

EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

RESPONSE TO COMMENTS

On June 10, 2011, the Division of Air Quality (DAQ) commenced a thirty day public comment period and subsequently held a public hearing on July 11, 2011 to accept oral comments on proposed revisions to legislative rule 45CSR34. Written comments were also accepted through 6:00 PM on Monday, July 11, 2011. No commenter submitted written comments regarding proposed revisions to rule 45CSR34, and no commenter provided substantive verbal comments.