INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: April 8, 2014

RE: ALCOA Power Generating, Inc - Warrick Power Plant / 173 - 33817 - 00002

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

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Sam Bruntz
Alcoa Power Generating, Inc. - Warrick Power Plant
PO Box 10 Bldg 860E
Newburgh, IN 46729

April 8, 2014

Re: 173-33817-00002
Significant Permit Modification to
Part 70 Renewal No.: T173-29684-00002

Dear Mr. Bruntz,

Alcoa Power Generating, Inc. - Warrick Power Plant was issued a Part 70 Operating Permit Renewal No. 173-29684-00002 on August 31, 2011 for a stationary electric generating facility located at 4700 Darlington Road, Newburgh, IN 47630. An application requesting changes to this permit was received on October 25, 2013. Pursuant to the provisions of 326 IAC 2-7-12, a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

For your convenience, the entire Part 70 Operating Permit Renewal as modified is attached.

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Deena Patton, of my staff, at 317-234-5400 or 1-800-451-6027, and ask for extension 4-5400.

Sincerely,

Tripurari Sinha

Tripurari P. Sinha, Ph. D., Section Chief
Permits Branch
Office of Air Quality

Attachment(s): Updated Permit, Technical Support Document and Appendix A

TS/dp

cc: File - Warrick County
Warrick County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
IDEM Southwest Regional Office

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

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Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

Part 70 Operating Permit Renewal

OFFICE OF AIR QUALITY

ALCOA Power Generating, Inc - Warrick Power Plant
4700 Darlington Road
Newburgh, Indiana 47630

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

1st Renewal Operation Permit No.: T173-29684-00002	
Issued by: Original Signed Tripurari P. Sinha, Ph. D., Section Chief Permits Branch, Office of Air Quality	Issuance Date: August 31, 2011 Expiration Date: August 31, 2016

1st Significant Modification No.: 173-30958-00002, issued on February 3, 2012.
2nd Significant Modification No.: 173-33009-00002, issued on August 29, 2013

3rd Significant Modification No.: 173-33817-00002	
Issued by: Tripurari Sinha Tripurari Sinha, Ph. D. Section Chief, Permits Branch Office of Air Quality	Issuance Date: April 8, 2014 Expiration Date: August 31, 2016

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Certification
Emergency Occurrence Report
Quarterly Report Forms
Quarterly Deviation and Compliance Monitoring Report

Attachment A: 40 CFR Part 60, Subpart OOO, Standards of Performance for Stationary Nonmetallic Mineral Processing Plants

Attachment B: 40 CFR Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Attachment C: 40 CFR Part 60, Subpart Db, New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary electric utility generating station.

Source Address:	4700 Darlington Road, Newburgh, Indiana 47630
General Source Phone Number:	812-853-1519
SIC Code:	4931
County Location:	Warrick
Source Location Status:	Nonattainment for PM2.5 standard Attainment for all other criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Major Source, under Nonattainment NSR Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 1, construction commenced on July 26, 1956, with an on-line date of April 1960, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-1, which is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NO_x), carbon dioxide (CO_2), sulfur dioxide (SO_2), and particulate matter (PM). Boiler No. 1 was configured with a low NO_x burner and over-fire air in 2003. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 1 were installed in 2008.

Note: Boiler No. 1 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(b) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 2, construction commenced on July 26, 1956, with an on-line date of January 1964, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-2, is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NOx), carbon dioxide (CO2), sulfur dioxide (SO2), and particulate matter (PM). Boiler No. 2 was configured with a low NOx burner and over-fire air in 2004. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 2 were installed in 2008.

Note: Boiler No. 2 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(c) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 3, construction commenced on July 26, 1956, with an on-line date of October 1965, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-3, is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NOx), carbon dioxide (CO2), sulfur dioxide (SO2), and particulate matter (PM). Boiler No. 3 was configured with a low NOx burner and over-fire air in 2002. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 3 were installed in 2008.

Note: Boiler No. 3 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(d) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 4, construction commenced on March 16, 1968, with an electrostatic precipitator (ESP) for control of particulate matter. Boiler No. 4 was configured with a low NOx burner in 1998, a Selective Catalytic Reduction (SCR) system permitted and constructed in 2004, a wet FGD scrubber, which commenced operation in 2008, and a reagent injection system that will reduce sulfuric acid emissions exiting the SCR, constructed in 2009. Boiler No. 4 has a nominal heat input capacity of 2,958 MMBtu/hr, and vents to Stack 243, which has continuous emissions monitors (CEMs) for nitrogen oxides (NOx), carbon dioxide (CO2), and sulfur dioxide (SO2), and a continuous opacity monitor (COM). Boiler No. 4 has a natural gas burner for start-up and may be fired in conjunction with the coal-fired capability. Construction of a dedicated wet limestone slurry absorber scrubber began in 2005.

This unit is not an affected facility under NSPS Da because it did not commence construction, modification, or reconstruction after September 18, 1978, or after June 19, 1984. The low NO_x burner constructed in 1998, the SCR system constructed in 2004, and the wet FGD scrubber, constructed in 2008 do not qualify as modifications as defined by 40 CFR 60, Subpart A. Specifically, the physical change did not result in increases to the atmosphere of any air pollutant (to which a standard applies) or result in any air pollutant not previously emitted.

(e) One (1) gas-fired boiler, identified as Emergency Rolling Mill Boiler, constructed in 1979, with a nominal heat input capacity of 79 million Btu per hour (MMBtu/hr) and exhausting to Stack 242.

This unit is not an affected facility under NSPS Db because it did not commence construction, modification or reconstruction after June 19, 1984.

(f) One (1) unloading station for barges, constructed prior to 1974, consisting of a clamshell bucket that transfers coal, limestone, and calcined petroleum coke from the barge to a spud hopper, with a nominal throughput of 1,300 tons of coal per hour**,** ~~or~~ 800 tons of limestone per hour, and 150 tons of calcined petroleum coke per hour, a pipe conveyor will transfer the material to a hopper used for loading trucks, with emissions from the drop points controlled by a baghouse, exhausting through Stack 244. The spud hopper and the baghouse were installed in 2008 in order to accommodate the transfer of limestone and approved for modification in 2013 in order to accommodate the transfer of calcined petroleum coke. The unloading station is not considered an affected facility under 40 CFR 60, Subpart OOO when unloading and transferring limestone because it is not physically connected to the crushing/grinding operations.

(g) A coal transfer system, constructed prior to 1974, with a nominal throughput of 1,300 tons of coal per hour, consisting of the following equipment:

(1) One (1) unloading station for trucks, adjacent to the 211 railcar dumper, with a drop point to an underground conveyor, with the drop point, identified as DP-1, equipped with wet suppression, and exhausting to the ambient air.

(2) The 211 rail car dumper, modified in 2013, with an enclosed drop point from a fixed bottom discharge to an underground conveyor, with the drop point, identified as DP-3, equipped with wet suppression and exhausting to the ambient air.

(3) One (1) 9.0 acre coal storage pile, having an estimated storage capacity of 300,000 tons, with fugitive emissions controlled by periodic watering by truck, and exhausting to the ambient air.

(4) The 210H truck hopper, with a drop point on a coal storage pile identified as F-1, uncontrolled and exhausting to the ambient air.

(5) Multiple unloading stations for trucks, with drop points to a coal storage pile, identified as F-1, uncontrolled and exhausting to the ambient air.

(6) Enclosed conveyor (4), with a drop point to the F-1 coal pile stacking tower, uncontrolled and exhausting to the ambient air.

(7) Enclosed conveyors 5 and 5A with each transfer point enclosed.

(8) Nineteen (19) coal bunkers (four (4) coal bunkers per unit for units 1-3, and seven (7) for unit 4). Bunkers are loaded via a conveyor tripper system servicing Boilers No. 1, No. 2, No. 3 and No. 4. Particulate matter generated from loading bunkers is controlled by rotoclones or water sprays and exhausts to the ambient air.

(9) Two (2) enclosed coal crushers, operating in parallel, constructed in 1960, with each transfer point equipped with wet suppression, and exhausting to the ambient air.

(h) A limestone transfer and handling system were installed in 2008, with a nominal throughput of 500 tons of limestone per hour, consisting of the following equipment:

(1) One (1) 1.42 acre limestone storage pile, having an estimated storage capacity of 22,000 tons, with fugitive emissions controlled by periodic watering by truck. Under 40 CFR 60, Subpart OOO, this is not an affected unit since it is not directly

connected to the product line of the nonmetallic mineral processing plant.

(2) One (1) limestone hopper, receiving limestone from the stockpiles via front end loaders, emissions uncontrolled and exhausting to ambient air.

(3) One (1) enclosed pipe conveyor, transferring limestone from the limestone hopper to one (1) of the three (3) limestone day silos, emissions controlled by the limestone day silos bin vent filters.

(4) Three (3) limestone day silos No. 1 - No. 3, each with maximum throughput capacity of 20.0 tons per hour, each equipped with a bin vent filter for particulate control, exhausting to vents 245, 246, and 247, respectively.

(5) Three (3) weigh scales, each with a maximum capacity of 20.0 tons per hour, each receiving material from one of the limestone day silos and transferring limestone to one (1) of three (3) gravity discharge chutes, all emissions control by the limestone day silos' bin vent filters, and exhausting to vents 245, 246, 247.

(6) Three (3) wet ball mill crushers, receiving limestone from weigh scales via the three (3) gravity discharge chutes, the transfer point is enclosed and emissions are controlled by the limestone day silos' bin vent filters, and exhausting to vents 245, 246, and 247.

Under 40 CFR 60, Subpart OOO, the one (1) limestone hopper, one (1) pipe conveyor, three (3) limestone day silos, three (3) weigh scales, three (3) gravity discharge chutes, and three (3) wet ball mill crushers are considered affected units.

(i) One (1) dry flyash storage and loadout system, consisting of the following equipment:

(1) Three (3) pneumatic conveyors with filter/separators, Units #1, #2, and #3 Pneumatic Conveyor Air Filter/Separators, were installed 2009; each of a capacity of 14.0 tons per hour, each equipped with a baghouse for particulate control, and venting to stacks 283A1, 283A2, and 283A3, respectively.

(2) One (1) pneumatic conveyor with filter/separator, Unit #4 Pneumatic Conveyor Air Filter/Separator, installed in 2009; with a capacity of 30.0 tons per hour, equipped with a baghouse for particulate control, and venting to stack 283B1.

(3) One (1) intermediate silo, Units #1 - #3 Intermediate Flyash Silo installed in 2009, with a capacity of 42.0 tons per hour, equipped with a baghouse for particulate control, and exhausting to stack 283A.

(4) One (1) intermediate silo, Unit #4 Intermediate Flyash Silo installed in 2009, with a capacity of 30.0 tons per hour, equipped with a baghouse for particulate control, and exhausting to stack 283B.

(5) One (1) dry flyash storage silo, Flyash Loadout Silo installed in 2009, with a capacity of 72.0 tons per hour, equipped with a baghouse for particulate control, exhausting to stack 283C.

(j) A gypsum transfer and handling system installed in 2008, with a nominal throughput of 72 tons of gypsum per hour, consisting of the following equipment:

(1) One (1) gypsum vacuum belt press dewatering system installed in 2008, with a nominal capacity of 72 tons of gypsum per hour, emissions are uncontrolled and

exhausting through vent 248 to ambient atmosphere.

(2) One (1) saturated gypsum enclosed pipe conveyor installed in 2008, with a nominal capacity of 72 tons of saturated gypsum per hour.

Under 40 CFR 60, Subpart OOO, these units are not considered affected units.

(k) Various diesel engine driven pumps, each with a rated capacity of less than 500 horsepower, identified as Y-pit Pumps approved for construction in 2008, provided the total combined horsepower of all diesel engine driven pumps does not exceed 1000 horsepower, located at the Y-pit for the purpose of removing rainwater. Pursuant to 40 CFR 1068.30, these Y-pit Pumps are considered nonroad engines. Therefore, under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, these Y-pit Pumps are not considered to be stationary internal combustion engines.

(l) Two (2) rental diesel units that shall not exceed 775 hp each, permitted in 2008, identified as Engine1 and Engine2. Pursuant to 40 CFR 1068, the rental diesel units are considered nonroad engines. Therefore, under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, the engines are not considered to be stationary internal combustion engines.

Note: These rental diesel units will be installed on an as-needed basis.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Underground conveyors. [326 IAC 6-3]

(b) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3]

(c) Emergency generators not exceeding 1,600 hp:

(1) One (1) stationary diesel emergency generator, identified as 202, manufactured and constructed prior to July 22, 2005, rated at 201 hp.

(2) One (1) stationary diesel emergency generator, identified as 231, manufactured and constructed prior to July 22, 2005, rated at 201 hp.

Under 40 CFR 63, Subpart ZZZZ, the emergency generators are considered to be affected units.

(d) Stationary firepump engines:

(1) One (1) stationary diesel emergency firewater pump engine, identified as 281, manufactured on July 22, 2005, constructed in 2008, rated at 465 hp.

(2) One (1) stationary diesel emergency firewater pump engine, identified as 203, manufactured and constructed prior to July 22, 2005, rated at 121 hp.

Under 40 CFR 63, Subpart ZZZZ, the firewater pump engines are considered to be affected units.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

(c) It is an affected source under Title IV (Acid Deposition Control) of the Clean Air Act, as defined in 326 IAC 2-7-1(3);

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T173-29684-00002, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit or of permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control).

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee’s control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a

reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Southwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Southwest Regional Office phone: (812) 380-2305; fax: (812) 380-2304**.**

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the

following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T173-29684-00002 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit, except for permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control)

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a

timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:
Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12] [40 CFR 72]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Pursuant to 326 IAC 2-7-11(b) and 326 IAC 2-7-12(a), administrative Part 70 operating permit amendments and permit modifications for purposes of the acid rain portion of a Part 70 permit shall be governed by regulations promulgated under Title IV of the Clean Air Act. [40 CFR 72]

(c) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(d) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions

is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b) or (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

(f) This condition does not apply to emission trades of SO_2 or NO_X under 326 IAC 21 or 326 IAC 10-4.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source

shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least

thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

(a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the

compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-7-5(11)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following, where applicable:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.
(BB) The dates analyses were performed.
(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

(c) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A), 326 IAC 2-2-8 (b)(6)(B), 326 IAC 2-3-2 (l)(6)(A), and/or 326 IAC 2-3-2 (l)(6)(B)) that a "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(pp)(2)(A)(iii) and/or 326 IAC 2-3-1 (kk)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A) and/or 326 IAC 2-3-2 (l)(6)(A)) that a "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (oo) and/or 326 IAC 2-3-1 (jj)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (ww) and/or 326 IAC 2-3-1 (pp), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(f) The report for project at an existing emissions unit shall be submitted no later than sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003

Indianapolis, Indiana 46204-2251

(g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS
Four (4) Coal-Fired Boilers: (Boiler No. 1, Boiler No. 2, Boiler No. 3 & Boiler No. 4)

Emissions Unit Description:

(a) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 1, construction commenced on July 26, 1956, with an on-line date of April 1960, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-1, which is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NO_x), carbon dioxide (CO_2), sulfur dioxide (SO_2), and particulate matter (PM). Boiler No. 1 was configured with a low NO_x burner and over-fire air in 2003. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 1 were installed in 2008.

Note: Boiler No. 1 is capable of burning non-hazardous carbon anode production waste Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(b) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 2, construction commenced on July 26, 1956, with an on-line date of January 1964, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-2, is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NOx), carbon dioxide (CO2), sulfur dioxide (SO2), and particulate matter (PM). Boiler No. 2 was configured with a low NOx burner and over-fire air in 2004. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 2 were installed in 2008.

Note: Boiler No. 2 is capable of burning non-hazardous carbon anode production waste Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(c) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 3, construction commenced on July 26, 1956, with an on-line date of October 1965, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-3, is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NOx), carbon dioxide (CO2), sulfur dioxide (SO2), and particulate matter (PM). Boiler No. 3 was configured with a low NOx burner and over-fire air in 2002. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 3 were installed in 2008.

Note: Boiler No. 3 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(d) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 4, construction commenced on March 16, 1968, with an electrostatic precipitator (ESP) for control of particulate matter. Boiler No. 4 was configured with a low NOx burner in 1998, a Selective Catalytic Reduction (SCR) system permitted and constructed in 2004, a wet FGD scrubber, which commenced operation in 2008, and a reagent injection system that will reduce sulfuric acid emissions exiting the SCR, constructed in 2009. Boiler No. 4 has a nominal heat input capacity of 2,958 MMBtu/hr, and vents to Stack 243, which has continuous emissions monitors (CEMs) for nitrogen oxides (NOx), carbon dioxide (CO2), and sulfur dioxide (SO2), and a continuous opacity monitor (COM). Boiler No. 4 has a natural gas burner for start-up and may be fired in conjunction with the coal-fired capability. Construction of a dedicated wet limestone slurry absorber scrubber began in 2005.

This unit is not an affected facility under NSPS Da because it did not commence construction, modification, or reconstruction after September 18, 1978, or after June 19, 1984. The low NOx burner constructed in 1998, the SCR system constructed in 2004 and the wet FGD scrubber, constructed in 2008 do not qualify as modifications as defined by 40 CFR 60, Subpart A. Specifically, the physical change did not result in increased to the atmosphere of any air pollutant (to which a standard applies) or result in any air pollutant not previously emitted.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 PSD Minor Limits [326 IAC 2-2]

In order to render PSD (Prevention of Significant Deterioration) not applicable, the following shall apply:

(a) The PM emissions from Boilers No. 1, No. 2, and No. 3, combined, shall not exceed 1060.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month and the PM emissions from Boiler No. 4 shall not exceed 1425.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

PM emissions from Boilers No. 1, No. 2, and No. 3 = [(PM E.F. No. 1 x H.E. No. 1) + (PM E.F. No. 2 x H.E. No. 2) + (PM E.F. No. 3 x H.E. No. 3)] / 2000 lb/ton

Where:

PM E.F. No. 1 = lb PM/MMBtu heat input to the Boiler No. 1 based on PM-CEMS output.

PM E.F. No. 2 = lb PM/MMBtu heat input to the Boiler No. 2 based on PM-CEMS output.

PM E.F. No. 3 = lb PM/MMBtu heat input to the Boiler No. 3 based on PM-CEMS output.

H.E. No. 1 = Heat Input (MMBtu) to Boiler No. 1
H.E. No. 2 = Heat Input (MMBtu) to Boiler No. 2
H.E. No. 3 = Heat Input (MMBtu) to Boiler No. 3

PM emissions from Boiler No. 4 = [(PM E.F. No. 4 x H.E. No. 4) + (PM SCR E.F. No. 4 x SCR H.E. No. 4) + (PM SCR reduced E.F. No. 4 x SCR reduced H.E. No. 4)] / 2000 lb/ton

Where:

PM E.F. No. 4 = lb PM/MMBtu heat input to Boiler No. 4 established during the latest compliance stack test when the SCR is not in operation

PM SCR E.F. No. 4 = lb PM/MMBtu heat input to Boiler No. 4 established during the latest compliance stack test when the SCR is operating but the reagent injection system is not operating

PM SCR Reduced E.F. No. 4 = lb PM/MMBtu heat input to Boiler No. 4 when the reagent injection system and SCR are in operation, provided the reagent injection rate is at or above the rate established during the reagent injection compliance tests.

H.E. No. 4 = Heat Input (MMBtu) to Boiler No. 4 when the SCR is not in operation

SCR H.E. No. 4 = Heat Input (MMBtu) to Boiler No. 4 when the SCR is operating but the reagent injection system is not operating

H.E. SCR No. 4 Reduced = Heat Input (MMBtu) to Boiler No. 4 when the reagent injection rate is at or above the rate established during the reagent injection compliance tests and the SCR is operating.

Compliance with the above PM limits and Condition D.4.2 shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to Significant Source Modifications No. 173-22006-00002.

(b) The NOx emissions from Boilers No. 1, No. 2, No. 3 and Boiler No. 4, combined, shall not exceed 13,720.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with the above NOx limit and Condition D.5.1 (a), shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the Significant Source Modification No.: 173-22006-00002.

(c) The H_2SO_4 emissions from Boilers No. 1, No. 2, No. 3, and Boiler No. 4, combined, shall be less than 677.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month and the H_2SO_4 emissions from Boilers No. 1, No. 2, and No. 3, shall be a value established during the latest compliant stack test for the respective boiler. The following equation shall be utilized to determine compliance:

H_2SO_4 emissions = [(H_2SO_4 E.F. No. 1 x H.E. No. 1) + (H_2SO_4 E.F. No. 2 x H.E. No. 2) + (H_2SO_4 E.F. No. 3 x H.E. No. 3) + (H_2SO_4 E.F. No. 4 x H.E. No. 4) + (H2SO4 SCR E.F. No. 4 x SCR H.E. No. 4)] + (H2SO4 SCR reduced x H.E. No. 4 SCR reduced)] / 2000 lb/ton

Where:

H_2SO_4 E.F. No. 1 = lb H_2SO_4/MMBtu heat input to Boiler No. 1 established during the latest compliance stack test.

H_2SO_4 E.F. No. 2 = lb H_2SO_4/MMBtu heat input to Boiler No. 2 established during the latest compliance stack test.

H_2SO_4 E.F. No. 3 = lb H_2SO_4/MMBtu heat input to Boiler No. 3 established during the latest compliance stack test.

H2SO4 E.F. No. 4 = lb H2SO4/MMBtu heat input to Boiler No. 4 established during the latest compliance stack test when the reagent injection system and the SCR are not in operation

H2SO4 SCR E.F. No. 4 = lb H2SO4/MMBtu heat input to Boiler No. 4 when the SCR is in operation but the reagent injection system is not in operation = a value established during the latest compliance stack test for this operating condition.

H2SO4 SCR Reduced E.F. No. 4 = lb H2SO4/MMBtu heat input to Boiler No. 4 when the reagent injection system and SCR are in operation, provided the reagent injection rate is at or above the rate established during the reagent injection compliance tests.

H.E. No. 1 = Heat Input (MMBtu) to Boiler No. 1
H.E. No. 2 = Heat Input (MMBtu) to Boiler No. 2
H.E. No. 3 = Heat Input (MMBtu) to Boiler No. 3

H.E. No. 4 =Heat Input (MMBtu) to Boiler No. 4 when the reagent injection system and SCR are not in operation

H.E. SCR No. 4 = Heat Input (MMBtu) to Boiler No. 4 when the reagent injection system is not operating but the SCR is operating

H.E. SCR No. 4 Reduced = Heat Input (MMBtu) to Boiler No. 4 when the reagent injection rate is at or above the rate established during the reagent injection compliance tests and the SCR is operating.

Compliance with the above H_2SO_4 limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to Significant Source Modifications No.: 173-22006-00002.

(d) The PM_{10} emissions from Boilers No. 1, No. 2, and No. 3, and Boiler No. 4, combined, shall not exceed 4490.00 tons per twelve (12) consecutive month period with compliance determined at the end of each month and the PM_{10} emissions from Boilers No. 1, No. 2, No. 3 and No. 4 shall be a value established during the latest compliant stack test for the respective boiler. The following equation shall be utilized to determine compliance:

PM_{10} emissions = [(PM_{10} E.F. No. 1 x H.E. No. 1) + (PM_{10} E.F. No. 2 x H.E. No. 2) + (PM_{10} E.F. No. 3 x H.E. No. 3) + (PM_{10} E.F. No. 4 x H.E. No. 4) + (PM_{10} SCR E.F. No. 4 x SCR H.E. No. 4) + (PM_{10} SCR reduced E.F. No. 4 x SCR reduced H.E. No. 4)] / 2000 lb/ton

Where:

PM10 E.F. No. 1 = lb PM10/MMBtu heat input to the Boiler No. 1 established during the latest compliance stack test for this operating condition.

PM10 E.F. No. 2 = lb PM10/MMBtu heat input to the Boiler No. 2 established during the latest compliance stack test for this operating condition

PM10 E.F. No. 3 = lb PM10/MMBtu heat input to the Boiler No. 3 established during the latest compliance stack test for this operating condition

PM10 E.F. No. 4 = lb PM10/MMBtu heat input to Boiler No. 4 established during the latest compliance stack test when the SCR is not in operation

PM10 SCR E.F. No. 4 = lb PM10/MMBtu heat input to Boiler No. 4 established during the latest compliance stack test when the SCR is operating but the reagent injection system is not operating

PM10 SCR Reduced E.F. No. 4 = lb PM10/MMBtu heat input to Boiler No. 4 when the reagent injection system and SCR are in operation, provided the reagent injection rate is at or above the rate established during the reagent injection compliance tests.

H.E. No. 1 = Heat Input (MMBtu) to Boiler No. 1
H.E. No. 2 = Heat Input (MMBtu) to Boiler No. 2
H.E. No. 3 = Heat Input (MMBtu) to Boiler No. 3

H.E. No. 4 = Heat Input (MMBtu) to Boiler No. 4 when the SCR is not in operation

SCR H.E. No. 4 = Heat Input (MMBtu) to Boiler No. 4 when the SCR is operating but the reagent injection system is not operating

H.E. SCR No. 4 Reduced = Heat Input (MMBtu) to Boiler No. 4 when the reagent injection rate is at or above the rate established during the reagent injection compliance tests and the SCR is operating.

Compliance with the above PM_{10} limit and Condition D.4.2 shall render the requirements of [326 IAC 2-2] (Prevention of Significant Deterioration (PSD)) not applicable to Significant Source Modifications No.: 173-22006-00002.

D.1.2 Nonattainment New Source Review (NSR) Minor Limit for $PM_{2.5}$ [326 IAC 2-1.1-5]

The $PM_{2.5}$ emissions from Boilers No. 1, No. 2, No. 3, and Boiler No. 4, combined, shall not exceed 4490.00 tons per twelve (12) consecutive month period with compliance determined at the end of each month and the $PM_{2.5}$ emissions from Boilers No. 1, No. 2, No. 3 and No. 4 shall be a value established during the latest compliant stack test for the respective boiler. The following equation shall be utilized to determine compliance:

$PM_{2.5}$ emissions = [($PM_{2.5}$ E.F. No. 1 x H.E. No. 1) + ($PM_{2.5}$ E.F. No. 2 x H.E. No. 2) + (PM2.5 E.F. No. 3 x H.E. No. 3) + (PM2.5 E.F. No. 4 x H.E. No. 4) + (PM2.5 SCR E.F. No. 4 x SCR H.E. No. 4) + ($PM_{2.5}$ SCR reduced E.F. No. 4 x SCR reduced H.E. No. 4)] / 2000 lb/ton

Where:

$PM_{2.5}$ E.F. No. 1 = lb $PM_{2.5}$/MMBtu heat input to Boiler No. 1 established during the latest compliance stack test

$PM_{2.5}$ E.F. No. 2 = lb $PM_{2.5}$/MMBtu heat input to Boiler No. 2 established during the latest compliance stack test

$PM_{2.5}$ E.F. No. 3 = lb $PM_{2.5}$/MMBtu heat input to Boiler No. 3 established during the latest compliance stack test

$PM_{2.5}$ E.F. No. 4 =lb $PM_{2.5}$/MMBtu heat input to Boiler No. 4 established during the latest compliance stack test when the SCR is not in operation

$PM_{2.5}$ SCR E.F. No. 4 = lb $PM_{2.5}$/MMBtu heat input to Boiler No. 4 established during the latest compliance stack test when the SCR is operating but the reagent injection system is not operating

PM2.5 SCR Reduced E.F. No. 4 = lb PM2.5/MMBtu heat input to Boiler No. 4 when the reagent injection system and SCR are in operation, provided the reagent injection rate is at or above the rate established during the reagent injection compliance tests.

H.E. No. 1 = Heat Input (MMBtu) to Boiler No. 1
H.E. No. 2 = Heat Input (MMBtu) to Boiler No. 2
H.E. No. 3 = Heat Input (MMBtu) to Boiler No. 3

H.E. No. 4 = Heat Input (MMBtu) to Boiler No. 4 when the SCR is not in operation

SCR H.E. No. 4 = Heat Input (MMBtu) to Boiler No. 4 when the SCR is operating but the reagent injection system is not operating

Compliance with the above $PM_{2.5}$ limits and Condition D.4.3 shall render the requirements of 326 IAC 2-1.1-5-2 (Nonattainment New Source Review (NSR)) not applicable to Significant Source Modifications No.: 173-22006-00002.

D.1.3 Best Available Retrofit Technology Emission Limitations [326 IAC 26-2-1]

Except as allowed by an effective variance issued from the Indiana Department of Environmental Management, Office of Air Quality, pursuant to 326 IAC 26-2-2, the allowable emissions from Boiler Nos. 1, 2, 3 and 4 shall be as follows:

(a) Boiler Nos. 1, 2 and 3 shall operate in accordance with the specified NO_x emission limitations, on a pound per million Btu basis, calculated on a the specified average:

(1) Boiler No. 1: 0.38 lb/MMBtu, (24) hour daily average
(2) Boiler No. 2: 0.38 lb/MMBtu, (24) hour rolling average
(3) Boiler No. 3: 0.38 lb/MMBtu, (24) hour rolling average

(b) Boiler Nos. 1, 2 and 3 shall operate in accordance with the specified SO_2 removal efficiencies, calculated on a twenty-four (24) hour daily average:

(1) Boiler No. 1: 91%
(2) Boiler No. 2: 90%
(3) Boiler No. 3: 90%

(c) Boiler Nos. 1, 2, 3 and 4 shall operate in accordance with the specified PM (filterable) emission limitations, on a pound per million Btu basis, calculated on a twenty-four (24) hour daily average:

(1) Boiler No. 1: 0.03 lb/MMBtu
(2) Boiler No. 2: 0.03 lb/MMBtu
(3) Boiler No. 3: 0.03 lb/MMBtu
(4) Boiler No. 4: 0.1 lb/MMBtu

D.1.4 Pollution Control Project (PCP) [326 IAC 2-2]

Pursuant to Significant Source Modification 173-18485-00002 issued on April 8, 2004, and in order to render PSD (Prevention of Significant Deterioration) not applicable, the following applies:

(a) Pursuant to 326 IAC 2-2.5, the installation and operation of the selective catalytic reduction (SCR) for Boiler No. 4 is considered a pollution control project because of the expected decrease in NO_x emissions.

(b) The expected emissions increase of sulfuric acid (H_2SO_4) from this pollution control project is exempted from the 326 IAC 2-2 PSD requirements.

(c) This pollution control project does not revise the existing applicable limitations and requirements already specified in the PSD permit 173-2087-00002, issued on December 9, 1991 for Boiler No. 4.

D.1.5 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-3]

Pursuant to CP 173-2087-00002, issued on December 9, 1991 and 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating: Emission limitations for facilities specified in 326 IAC 6-2-1(c)), the PM emissions exhausted from Boiler No. 4 through Stack 243 shall not exceed 0.228 pound per million Btu heat input (lb/MMBtu). This limitation was calculated using the following equation:

$$Pt = \frac{(C)\,(a)\,(h)}{76.5\ (Q^{0.75})\ (N^{0.25})}$$

Where C = 50 µ/m3
Q = 7029 MMBtu/hr (capacity of boilers 1-4)
N = 3 (number of stacks)
a = 0.8
h = 442 Feet (average stack height)

Pt = 0.228 pound per million Btu heat input (lb/MMBtu)

Pursuant to 326 IAC 6-2-3(b), limitations for all facilities which were existing and in operation on or before June 8, 1972, shall be calculated using the above equation and shall include the parameters for all facilities in operation on June 8, 1972. Therefore, the values in the above equation are representative of the parameters as they existed on June 8, 1972, and do not necessarily reflect current operating configurations.

D.1.6 Startup, Shutdown and Other Opacity Limits [326 IAC 5-1-3]

Pursuant to 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), the following applies to Boiler No. 4:

(a) When building a new fire in a boiler, opacity may exceed the applicable limitation established in 326 IAC 5-1-2 for a period not to exceed five (5) hours (fifty (50) six (6)-minute averaging periods) from the time of the first exceedance or until the flue gas temperature reaches two hundred fifty (250) degrees Fahrenheit at the inlet of the electrostatic precipitator, whichever occurs first. Operation of the electrostatic precipitator is not required during these times. [326 IAC 5-1-3(e)]

Operation of the electrostatic precipitator is not required during these times.
[326 IAC 5-1-3(e)]

(b) When shutting down a boiler, opacity may exceed the applicable limitation established in 326 IAC 5-1-2 for a period not to exceed four and one half (4.5) hours (forty five (45) six (6)-minute averaging periods) after initial trip of the main fuel supply. Although operation of the electrostatic precipitator is not required during these times, continued precipitator operation as the boiler cools will minimize PM emissions associated with shutdown event. [326 IAC 5-1-3(e)].

(c) When removing ashes from the fuel bed or furnace in a boiler or blowing tubes, opacity may exceed the applicable limit established in 326 IAC 5-1-2 and stated in Section C - Opacity. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period and opacity in excess of the applicable limit shall not continue for more than one (1) six (6)-minute averaging period in any sixty (60) minute period. The exceedances shall not be permitted for more than three (3) six (6)-minute averaging periods in a twelve (12) hour period. [326 IAC 5-1-3(b)]

(d) If a facility cannot meet the opacity limitations of 326 IAC 5-1-3(b), the Permittee may submit a written request to IDEM, OAQ, for a temporary alternative opacity limitation in accordance with 326 IAC 5-1-3(d). The Permittee must demonstrate that the alternative limit is needed and justifiable.

D.1.7 Sulfur Dioxide (SO_2) [326 IAC 7-4-10]

Pursuant to 326 IAC 7-4-10 (Warrick County Sulfur Dioxide Emission Limitations), the SO_2 emissions from Boilers No. 1, No. 2, No. 3 and No. 4 each shall not exceed 5.11 pounds per million Btu (lbs/MMBtu).

D.1.8 Carbon Monoxide (CO) Limitation [326 IAC 2-2]

Pursuant to Significant Source Modification 173-16275-00002 issued on November 6, 2002, and as revised by the SPM 173-22581-00002, and in order to render PSD (Prevention of Significant Deterioration) not applicable, the combined carbon monoxide (CO) emissions from Boilers No. 1, No. 2, and No. 3, exhausted through Stacks 241-1, 241-2, and 241-3 shall not exceed 2099.80 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

D.1.9 PSD Minor Limit for Sulfur Dioxide [326 IAC 2-2]

(a) Pursuant to the August 12, 1996 Administrative Amendment to Condition 7 of CP (173)-2087-00002, issued on December 9, 1991, sulfur dioxide emissions from Boilers No. 1, No. 2, No. 3 and No. 4 shall not exceed a total of 157,206 tons per twelve (12) consecutive month period with compliance determined at the end of each month, equivalent to a total of 79,074 tons of sulfur input per year, based on:

(1) A 365 consecutive day weighted average sulfur dioxide emission rate in pounds per million British thermal units, with compliance determined at the end of each day, and

(2) Operating a continuous monitoring system for sulfur dioxide in accordance with the requirements 326 IAC 3-5-1.

(b) Pursuant to Condition 8(b) of CP 173-2087-00002, issued on December 9, 1991, SO_2 emissions from Boiler No. 4 shall not exceed 181.2 tons per day with compliance determined at the end of each day.

(c) Pursuant to Condition 8(a) of CP 173-2087-00002, issued on December 9, 1991, SO_2 emissions from Boilers No. 1, No. 2, and No. 3 shall not exceed a total of 249.5 tons per day with compliance determined at the end of each day.

D.1.10 Discontinuation of Natural Gas Co-fire

Alcoa Power Generating Inc. - Warrick Power Plant may, at their option, discontinue use of the natural gas co-fire for Boilers No. 1, No. 2, and No. 3. Written notification must be submitted to IDEM, OAQ if it is decided that use of the gas co-fire system will be discontinued. Gas igniters on each unit will then be used for startup fuel only. New Source Performance Standards and New

Source Review will not be applicable to the removal of these systems.

Compliance Determination Requirements

D.1.11 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) By December 31 of the second calendar year following the most recent stack test, compliance with the CO limitations in Condition D.1.7 for Boilers No. 1, No. 2 and No. 3 shall be determined by a performance stack test conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures).

(b) By December 31 of the calendar year following the most recent stack test, compliance with the H_2SO_4 limitations in Condition D.1.1(c) for Boilers No. 1, No. 2 and No. 3 shall be determined by a performance stack test conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every fifth calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures).

(c) By December 31 of the calendar year following the most recent stack test, compliance with the PM_{10} limitations in Condition D.1.1 (d) for Boilers No. 1, No. 2, No. 3 and No. 4 shall be determined by a performance stack test conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures).

(d) By December 31 of the calendar year following the most recent stack test, compliance with the $PM_{2.5}$ limitations in Condition D.1.2 for Boilers No. 1, No. 2, No. 3 and No. 4 shall be determined by a performance stack test conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures).

(e) By December 31 of the second calendar year following the most recent stack test, compliance with the PM limitations in Condition D.1.1(a) for Boiler No. 4 shall be determined by a performance stack test conducted using 40 CFR 60, Appendix A, Method 5, or methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(f) The most recent stack test while the SCR was in operation but the reagent injection system was not operating was conducted on March 6, 2009. By December 31, 2014, compliance with the H2SO4 limitations in Condition D.1.1(c) for Boiler No. 4 shall be determined by a performance stack test conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every fifth calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(g) The most recent stack test while the SCR and reagent injection system were in operation was conducted on September 25, 2009. By December 31, 2014, compliance with the H2SO4 limitations in Condition D.1.1(c) for Boiler No. 4 shall be determined by a

performance stack test conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every fifth calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(h) The most recent stack test while the SCR was not operating was conducted on November 6, 2009. By December 31, 2014, compliance with the H2SO4 limitations in Condition D.1.1(c) for Boiler No. 4 for the SCR not-operating mode condition shall be determined by a performance stack test during a scheduled outage of the SCR conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every fifth calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(i) By December 31 of the second calendar year following the most recent stack test while the SCR is in operation with and without the reagent injection system in operation, compliance with the PM_{10} and $PM_{2.5}$ limitations in Condition D.1.1 (d) and Condition D.1.2 for Boiler No. 4 shall be determined by a performance stack test conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM_{10} and $PM_{2.5}$ includes filterable and condensable PM.

(j) By December 31 of the second calendar year following the most recent stack test for the SCR not-operating mode condition, compliance with the PM_{10} and $PM_{2.5}$ limitations in Condition D.1.1 (d) and Condition D.1.2 for Boiler No. 4 shall be determined by a performance stack test during the first scheduled outage of the SCR conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(k) Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.1.12 Operation of Electrostatic Precipitator [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, the electrostatic precipitator shall be operated at all times that Boiler No. 1, Boiler No. 2, Boiler No. 3 and Boiler No. 4 are vented to the respective ESP's.

D.1.13 Operation of Wet Scrubbers [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule in this permit, the dedicated wet scrubber for Boiler No. 1, Boiler No. 2, Boiler No. 3, and Boiler No. 4 shall be in operation and control SO_2 and H2SO4 emissions from Boiler No. 1, Boiler No. 2, Boiler No. 3, and Boiler No. 4 at all times that the boiler is in operation.

D.1.14 Continuous Emissions Monitoring [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), the Permittee shall

comply with the following:

(1) Continuous emission monitoring systems for Boiler No. 1, Boiler No. 2, Boiler No. 3 and Boiler No. 4 shall be calibrated, maintained, and operated for measuring SO2, NOx, and O2 or CO2.

(2) The dedicated wet scrubbers for Boiler No. 1, Boiler No. 2, and Boiler No. 3 continuous emissions monitoring systems shall be calibrated, maintained, and operated for measuring SO_2 at the inlet of each scrubber.

(3) Whenever a NOx CEM is down for more than twenty-four (24) hours, the Permittee shall apply the data substitution procedures specified by 40 CFR Part 75.

(4) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5 or 40 CFR 75.

(b) The Permittee shall comply with the following for Boiler No. 1, Boiler No. 2, and Boiler No. 3:

(1) PM compliance will be demonstrated by the associated PM CEMS;

(2) Upon successful completion of the certification of the PM CEMS, the Petitioner shall submit all required information to the IDEM Office of Air Quality; and

(3) Installation, operation, testing, monitoring, data reporting, data substitution, and other requirements for the PM CEMS shall be determined by NSPS, 40 CFR Part 60, Subpart Db and 326 IAC 3-5 (Continuous Monitoring of Emissions).

(c) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3, and shall meet all applicable performance specifications of 326 IAC 3-5-2.

(d) The Permittee shall comply with the following for Boiler No. 4:

(1) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), the Permittee shall install calibrate, certify, operate, and maintain all necessary continuous opacity monitoring systems (COMS) and related equipment for measuring opacity, which meet all applicable performance specifications of 326 IAC 3-5-2. For a boiler, the COMS shall be in operation at all times that the induced draft fan is in operation.

(2) All COMS shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No. 1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

(3) In the event that a breakdown of a COMS occurs, a record shall be made of the time and reason of the breakdown and efforts made to correct the problem.

(4) Whenever a COMS is malfunctioning or is down for maintenance or repairs for twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.

(A) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.

(B) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(C) Method 9 readings may be discontinued once a COMS is online.

(D) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.

(5) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous opacity monitoring system pursuant to 326 IAC 3-5, 40 CFR 60 and/or 40 CFR 63.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.1.15 Transformer-Rectifier (T-R) Sets [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The ability of the ESP to control particulate emissions shall be monitored once per day, when the unit is in operation, by measuring and recording the number of T-R sets in service and the primary and secondary voltages and the currents of the T-R sets.

(b) Reasonable response steps shall be taken whenever the percentage of T-R sets in service falls below ninety percent (90%). Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. T-R set failure resulting in less than ninety percent (90%) availability is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.16 Wet Scrubbers [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

For each of the dedicated wet scrubbers for Boiler No. 1, No. 2, and No. 3, the Permittee shall continuously monitor and determine SO_2 emissions reduction by SO_2 CEMS. Whenever the SO_2 reduction fall below ninety percent (90%), the Permittee shall take response steps. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A SO2 emissions reduction of less than ninety percent (90%) is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Compliance with this percent SO2 reduction requirement will be determined on a twenty-four (24) hour daily (block) average.

D.1.17 Opacity Readings for Boiler No. 4 only [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) In the event of emissions exceeding thirty percent (30%) average opacity for three (3) consecutive six (6) minute averaging periods, appropriate response steps shall be taken such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back below thirty percent (30%). Examples of expected response steps include, but are not limited to, boiler loads being reduced and ESP T-R sets being returned to service.

(b) Opacity readings in excess of thirty percent (30%) but not exceeding the opacity limit for the unit are not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition

(c) The Permittee may request that the IDEM, OAQ approve a different opacity trigger level than the one specified in (a) and (b) of this condition, provided the Permittee can demonstrate, through stack testing or other appropriate means, that a different opacity trigger level is appropriate for monitoring compliance with the applicable particulate matter mass emission limits.

D.1.18 SO_2 Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)]

The following shall apply to the wet scrubbers for Boiler No. 1, Boiler No. 2, Boiler No. 3, and Boiler No. 4 respectively:

(a) At any time the wet scrubber for Boiler No. 1, Boiler No. 2, Boiler No. 3, and Boiler No. 4 is operating, if the respective SO2 continuous emission monitoring system (CEMS) is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall monitor and record exhaust air stream pressure drop, recirculation pH, pump motor amperage and number of recirculation pumps in service, to demonstrate that the operation of the wet scrubber continues in a manner typical for the boiler load and sulfur content of the coal fired.

(b) Wet scrubber parametric monitoring readings shall be recorded at least twice per day until the primary CEMS or a backup CEMS is brought online.

(c) Actual fuel usage during each SO2 CEMs downtime shall be recorded during the full duration of each downtime event.

D.1.19 Particulate (PM) Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)]

For Boiler No. 1, Boiler No. 2, and Boiler No. 3, the following shall be used to provide information related to particulate emissions:

(a) In the event that a breakdown of a PM-CEMS occurs, a record shall be made of the time and reason of the breakdown and efforts made to correct the problem.

(b) If a PM-CEMS is down for less than twenty-four (24) hours, the Permittee shall substitute an average of the quality-assured data from the hour immediately before and the hour immediately after the missing data period for each hour of missing data.

(c) Whenever a PM-CEMS is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall comply with the following:

(1) Monitor and record the pH of the scrubbing liquid, scrubber liquid inlet rate as measured by pump amperage, and exhaust air flow rate of the wet scrubber.

(2) Measure and record the number of T-R sets in service and the primary and secondary voltages and the currents of the T-R sets of the ESP.

(3) Wet scrubber and T-R parametric monitoring readings shall be recorded at least twice per day until the primary CEMS or backup CEMS is brought online.

D.1.20 Compliance Assurance Monitoring (CAM) [40 CFR Part 64]

Pursuant to 40 CFR Part 64, the Permittee shall comply with the following Compliance Assurance Monitoring requirements for the wet scrubbers and the electrostatic precipitators controlling Boiler No. 1, Boiler No. 2, and Boiler No. 3:

Monitoring Approach for PM10 Emissions from Boiler No. 1, Boiler No. 2, and Boiler No. 3			
PARAMETER	INDICATOR NO. 1	INDICATOR NO. 2	INDICATOR NO. 3
I. Indicator Measurement Approach	PM10 Emission Rate	Proper Operation of Scrubbers	Proper Operation of Electrostatic Precipitators (ESP)
	Test methods approved by the Commissioner, Scrubbers, and ESPs	PM-CEMS and maintenance of minimum scrubber liquid inlet rate measured with pump amperage	i. # of T-R sets in operation ii. primary & secondary voltages iii. currents of T-R sets
II. Indicator Range	an excursion is defined as being outside the following: PM10 emission limit of 0.081 lb/MMBtu	an excursion is defined as being outside the following: PM emissions in excess of 0.03 lb/mm Btu, 24-hour average	an excursion is defined as being outside the following: i. # of T-R sets in service shall be > 90%
III. Performance Criteria	--	Pursuant to 40 CFR 60, Subpart Db	--
A. Data Representativeness	Test methods as approved by Commissioner	Pursuant to 40 CFR 60, Subpart Db	Subject to Instrument Specifications of Section C of permit
B. Verification of Operational Status	N/A	N/A	N/A
C. QA/QC Practices and Criteria	Test methods as approved by Commissioner	PM-CEMS per manufacturer recommendations Liquid inlet rate measured by pump amperage per Instrument Specifcations of Section C of permit, gas flow per 40 CFR 75 RATA requirements	Electrostatic precipitator current and voltage monitoring data per manufacturer recommendations
D. Monitoring Frequency	Once every 2 years.	Continuous	Once per day when operating
IV. Data Collection Proceedure	Test methods as approved by Commissioner	Continuous emissions data acquisition system	Daily observations are recorded in log
Averaging Period	Test methods as approved by Commissioner	PM and PM_{10} - 24 hour average per the PM-CEMS	N/A

Pursuant to 40 CFR Part 64, the Permittee shall comply with the following Compliance Assurance Monitoring requirements for the electrostatic precipitator controlling Boiler No. 4:

Monitoring Approach for PM Emissions from Boiler 4			
PARAMETER	INDICATOR NO. 1	INDICATOR NO. 2	INDICATOR NO. 3
I. Indicator Measurement Approach	Particulate Emission Rate	Opacity	Electrostatic Precipitators (ESP)

Monitoring Approach for PM Emissions from Boiler 4			
PARAMETER	INDICATOR NO. 1	INDICATOR NO. 2	INDICATOR NO. 3
	Methods approved by the Commissioner, Scrubbers, and ESPs	COM	i. # of T-R sets in operation ii. primary & secondary voltages iii. currents of T-R sets
II. Indicator Range	Particulate emission limit of 0.228 lb/MMBtu	Pursuant to 326 IAC 5-1 - Opacity Limitations, and IAC 5-1-3 - Tempory Opacity Limitations	an excursion is defined as being outside the following: i. # of T-R sets in service shall be > 90%
III. Performance Criteria		Pursuant to 40 CFR, Part 75	--
A. Data Representativeness	Methods as approved by Commissioner	Pursuant to 326 IAC 3	Subject to Instrument Specifications of Section C of permit
B. Verification of Operational Status	N/A	--	N/A
C. QA/QC Practices and Criteria	--	Pursuant to 326 IAC 3	Electrostatic precipitator current and voltage monitoring data, per manufacturer recommendations
D. Monitoring Frequency	Once every 2.5 years.	6 minute average	Once per day when operating
IV. Data Collection Proceedure	Methods as approved by Commissioner	Pursuant to 40 CFR, Part 75	Daily observations are recorded in log

D.1.21 Monitoring Requirements for the Wet Scrubber for Boiler No.1, Boiler No.2, Boiler No.3, and Boiler No. 4. [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

For the dedicated wet scrubber for Boiler No.1, Boiler No.2, Boiler No.3. and Boiler No. 4, the Permittee shall comply with the following:

(a) The Permittee shall monitor the pH of the scrubbing liquid, exhaust air stream pressure drop and pump motor amperage for each pump of the dedicated wet scrubber for Boiler No.1, Boiler No.2, Boiler No.3. and Boiler No. 4 at least once per day when the wet scrubber is in operation.

(b) When for any one reading, the pH of the scrubbing liquid is less than 4.7 or a value established during the latest Relative Accuracy Test Audit (RATA), the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pH reading that is less than 4.7 or a value established during the latest RATA is not a deviation from this permit.

(c) When for any one reading, the exhaust air stream pressure drop is outside the initial compliance demonstration range of 3.0 and 10.0 inches of water or a range established during the latest Relative Accuracy Test Audit (RATA), the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure drop reading that is outside the normal range or a range established during the latest RATA is not a deviation from this permit.

(d) When for any one reading, the scrubber inlet rate indicates that the scrubber liquid input rate is less than 329 gallons per minute or a value established during the latest Relative Accuracy Test Audit (RATA), the Permittee shall take reasonable response steps in

accordance with Section C - Response to Excursions or Exceedances. A flow rate reading that is less than 329 gallons per minute or a rate established during the latest RATA is not a deviation from this permit.

Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The instruments used for determining the pH, pressure drop and pump motor amperage shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.22 Record Keeping Requirements

(a) For each of the wet scrubbers and ESP's for Boiler No. 1, Boiler No. 2, Boiler No. 3, and Boiler No. 4 the following shall apply:

(1) To document the compliance status with SO2 Conditions D.1.7 - Sulfur Dioxide (SO2), D.1.9 - Sulfur Dioxide Limitations, D.1.14 - Continuous Emissions Monitoring, and D.1.18 - SO2 Monitoring Downtime, the Permittee shall maintain records in accordance with (A) through (D) below. Records shall be complete and sufficient to establish the compliance status with the SO_2 limits as required in Conditions D.1.7- Sulfur Dioxide (SO2) and D.1.9 - Sulfur Dioxide Limitations. The Permittee shall maintain records in accordance with (C) below during SO_2 CEMS downtime if a backup CEMS is not used.

(A) All SO_2 continuous emissions monitoring data, pursuant to 326 IAC 7-2-1(g),

(B) Calculated fuel usage during each SO_2 CEMS downtime for Unit(s) affected by CEM downtime lasting 24 hours or more.

(C) The recirculation pH, the exhaust air stream pressure drop, and the pump motor amperage for each pump of the respective wet scrubber and number of recirculation pumps in service.

(D) The substitute data used for the missing data periods if data substitution pursuant to 40 CFR Part 75 Subpart D is used to provide data for the SO_2 CEM downtime, in accordance with Condition D.1.18.

(2) To document the compliance status with NOx Condition D.1.1 (b), the Permittee shall maintain records of all NOx and CO_2 or O_2 continuous emissions monitoring data, pursuant to 326 IAC 3-5-6. Records shall be complete and sufficient to establish compliance with the NOx limit as required in Condition D.1.1 (b).

(3) To document the compliance status with Condition D.1.1(c), the Permittee shall keep records that verify the emissions rates of H_2SO_4 from Boiler No.1, Boiler No. 2, Boiler No. 3, and Boiler No. 4. These shall be made available upon request to IDEM, OAQ and the US EPA.

(4) To document the compliance status with Condition D.1.20, the Permittee shall maintain records of corrective actions taken in response to excursions as required by the CAM Plan for the ESP (if any are required).

(5) Section C - General Record Keeping Requirements, contains the Permittee's

obligation with regard to the records required by this condition.

(b) The following shall apply for Boiler No. 1, Boiler No. 2 and Boiler No. 3:

(1) To document the compliance status with Conditions D.1.14 (a) - Continuous Emissions Monitoring, and D.1.15 - Transformer-Rectifier (T-R) Sets, the Permittee shall maintain records in accordance with (A) through (B) below.

(A) Data and results from the most recent stack test.

(B) All ESP parametric monitoring readings as specified by Condition D.15(a). The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a recorded reading (e.g. the process did not operate that day).

(2) To document the compliance status with Conditions D.1.14- Continuous Emissions Monitoring, D1.15 - Transformer-Rectifier (T-R) Sets, D.1.16 - Wet Scrubbers, D.1.19 - Particulate (PM) Monitoring System Downtime, and D.1.21 – Monitoring Requirement for the Wet Scrubber, the Permittee shall maintain records in accordance with (A) through (D) below. The Permittee shall maintain records in accordance with (D) below during PM CEMS downtime if a backup CEMS is not used.

(A) All continuous emissions monitoring data for SO2 emissions reduction, as a twenty-four (24) hour daily (block) average, in accordance with Condition D.1.16.

(B) All ESP parametric monitoring readings, in accordance with Condition D.1.15. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a recorded reading (e.g. the process did not operate that day).

(C) All wet scrubber liquid inlet flow rate readings measured by pump amperage, in accordance with Condition D.1.21. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a recorded reading (e.g. the process did not operate that day).

(D) All ESP and scrubber parametric monitor readings, in accordance with Conditions D.1.15 (a) and D.1.21.

(c) The following shall apply for Boiler No. 4:

To document the compliance status with Section C - Opacity and Conditions D.1.1 - PSD Minor Limits, D.1.5 - Particulate Emission Limitations for Sources of Indirect Heating, D.1.6 - Startup, Shutdown and Other Opacity Limits, D.1.14 - Continuous Emissions Monitoring, D.1.15(a) - Transformer-Rectifier (T-R) Sets, D.1.16 - Wet Scrubber, and D.1.17- Opacity Readings, the Permittee shall maintain records in accordance with (A) through (E) below.

Records shall be complete and sufficient to establish compliance with the limits established in Section C - Opacity and in Conditions D.1.1 - PSD Minor Limits, D.1.5 - Particulate Emission Limitations for Sources of Indirect Heating, D.1.6 - Startup, Shutdown and Other Opacity Limits.

(A) Data and results from the most recent stack test.

(B) All continuous opacity monitoring data, pursuant to 326 IAC 3-5.

(C) The results of all Method 9 visible emission readings taken during any periods of COMS downtime.

(D) Daily records of the number of T-R sets in service, the primary and secondary voltages, and the currents of the T-R sets. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a recorded reading (e.g. the process did not operate that day).

(E) All wet scrubber pH, exhaust air stream pressure drop, and pump motor current readings, in accordance with Conditions D.1.18 and D.1.21. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a recorded reading (e.g. the process did not operate that day).

D.1.23 Reporting Requirements

(a) The following shall apply for Boiler No. 1, Boiler No. 2, and Boiler No. 3:
A quarterly report of the information to document the compliance status with Conditions D.1.1, D.1.2, D.1.8, and D.1.9 (a) and (c) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1 (35).

(b) The following shall apply for Boiler No. 4:
A quarterly report of opacity exceedances and a quarterly summary of the information to document the compliance status with Conditions D.1.1, D.1.2, D.1.7, and D.1.9(a) and (b) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The following shall apply to Boiler No. 1, Boiler No. 2, Boiler No. 3, and Boiler No. 4:
Pursuant to 326 IAC 3-5-7(5), reporting of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(1) Date of downtime.

(2) Time of commencement.

(3) Duration of each downtime.

(4) Reasons for each downtime.

(5) Nature of system repairs and adjustments.

The report submitted by the Permittee does require the certification by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(e) One (1) gas-fired boiler, identified as Emergency Rolling Mill Boiler, constructed in 1979, with a nominal heat input capacity of 79 million Btu per hour (MMBtu/hr) and exhausting to Stack 242.

This unit is not an affected facility under NSPS Db because it did not commence construction, modification or reconstruction after June 19, 1984.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3, the PM emissions from the Emergency Rolling Mill Boiler stack shall not exceed 0.227 pound per million Btu heat input (lb/MMBtu). This limitation was calculated using the following equation:

$$Pt = \frac{(C)\,(a)\,(h)}{76.5\ (Q^{0.75})\ (N^{0.25})}$$

Where C = 50 µ/m3
Q = 7108 MMBtu/hr (capacity of boilers)
N = 3 (number of stacks)
a = 0.8
h = 442 Feet (average stack height)

Pt = 0.227 lb/MMBtu

Pursuant to 326 IAC 6-2-3(b), limitations for all facilities which were existing and in operation on or before June 8, 1972, shall be calculated using the above equation and shall include the parameters for all facilities in operation on June 8, 1972. Therefore, the values in the above equation are representative of the parameters as they existed on June 8, 1972, and do not necessarily reflect current operating configurations.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(f) One (1) unloading station for barges, constructed prior to 1974, consisting of a clamshell bucket that transfers coal, limestone, and calcined petroleum coke from the barge to a spud hopper, with a nominal throughput of 1,300 tons of coal per hour**,** 800 tons of limestone per hour, and 100 tons of calcined petroleum coke per hour, a pipe conveyor will transfer the material to a hopper used for loading trucks, with emissions from the drop points controlled by a baghouse, exhausting through Stack 244. The spud hopper and the baghouse were installed in 2008 in order to accommodate the transfer of limestone and approved for modification in 2013 in order to accommodate the transfer of calcined petroleum coke. The unloading station is not considered an affected facility under 40 CFR 60, Subpart OOO when unloading and transferring limestone because it is not physically connected to the crushing/grinding operations

(g) A coal transfer system, constructed prior to 1974, with a nominal throughput of 1,300 tons of coal per hour, consisting of the following equipment:

(1) One (1) unloading station for trucks, adjacent to the 211 railcar dumper, with a drop point to an underground conveyor, with the drop point, identified as DP-1, equipped with wet suppression, and exhausting to the ambient air.

(2) The 211 rail car dumper, modified in 2013, with an enclosed drop point from a fixed bottom discharge to an underground conveyor, with the drop point, identified as DP-3, equipped with wet suppression and exhausting to the ambient air.

(3) One (1) 9.0 acre coal storage pile, having an estimated storage capacity of 300,000 tons, with fugitive emissions controlled by periodic watering by truck, and exhausting to the ambient air.

(4) The 210H truck hopper, with a drop point on a coal storage pile identified as F-1, uncontrolled and exhausting to the ambient air.

(5) Multiple unloading stations for trucks, with drop points to a coal storage pile, identified as F-1, uncontrolled and exhausting to the ambient air.

(6) Enclosed conveyor (4), with a drop point to the F-1 coal pile stacking tower, uncontrolled and exhausting to the ambient air.

(7) Enclosed conveyors 5 and 5A with each transfer point enclosed.

(8) Nineteen (19) coal bunkers (four (4) coal bunkers per unit for units 1-3, and seven (7) for unit 4). Bunkers are loaded via a conveyor tripper system servicing Boilers No. 1, No. 2, No. 3 and No. 4. Particulate matter generated from loading bunkers is controlled by rotoclones or water sprays and exhausts to the ambient air.

(9) Two (2) enclosed coal crushers, operating in parallel, constructed in 1960, with each transfer point equipped with wet suppression, and exhausting to the ambient air.

(h) A limestone transfer and handling system installed in 2008, with a nominal throughput of 500 tons of limestone per hour, consisting of the following equipment:

(1) One (1) 1.42 acre limestone storage pile, having an estimated storage capacity of 22,000 tons, with fugitive emissions controlled by periodic watering by truck. Under 40 CFR 60, Subpart OOO, this is not an affected unit since it is not directly connected to the product line of the nonmetallic mineral processing plant.

(2) One (1) limestone hopper, receiving limestone from the stockpiles via front end loaders, emissions uncontrolled and exhausting to ambient air.

(3) One (1) enclosed pipe conveyor, transferring limestone from the limestone hopper to one (1) of the three (3) limestone day silos, emissions controlled by the limestone day silos bin vent filters.

(4) Three (3) limestone day silos No. 1 - No. 3, each with maximum throughput capacity of 20.0 tons per hour, each equipped with a bin vent filter for particulate control, exhausting to vents 245, 246, and 247, respectively.

(5) Three (3) weigh scales, each with a maximum capacity of 20.0 tons per hour, each receiving material from one of the limestone day silos and transferring limestone to one (1) of three (3) gravity discharge chutes, all emissions control by the limestone day silos' bin vent filters, and exhausting to vents 245, 246, 247.

(6) Three (3) wet ball mill crushers, receiving limestone from weigh scales via the three (3) gravity discharge chutes, the transfer point is enclosed and emissions are controlled by the limestone day silos' bin vent filters, and exhausting to vents 245, 246, and 247.

Under 40 CFR 60, Subpart OOO, the one (1) limestone hopper, one (1) pipe conveyor, three (3) limestone day silos, three (3) weigh scales, three (3) gravity discharge chutes, and three (3) wet ball mill crushers are considered affected units.

(i) One (1) dry flyash storage and loadout system, consisting of the following equipment:

(1) Three (3) pneumatic conveyors with filter/separators, Units #1, #2, and #3 Pneumatic Conveyor Air Filter/Separators installed 2009; each of a capacity of 14.0 tons per hour, each equipped with a baghouse for particulate control, and venting to stacks 283A1, 283A2, and 283A3, respectively.

(2) One (1) pneumatic conveyor with filter/separator, Unit #4 Pneumatic Conveyor Air Filter/Separator installed in 2009; with a capacity of 30.0 tons per hour, equipped with a baghouse for particulate control, and venting to stack 283B1.

(3) One (1) intermediate silo, Units #1 - #3 Intermediate Flyash Silo installed in 2009, with a capacity of 42.0 tons per hour, equipped with a baghouse for particulate control and exhausting to stack 283A.

(4) One (1) intermediate silo (Unit #4 Intermediate Flyash Silo) installed in 2009, with a capacity of 30.0 tons per hour, equipped with a baghouse for particulate control and exhausting to stack 283B.

(5) One (1) dry flyash storage silo, Flyash Loadout Silo, installed in 2009, with a capacity of 72.0 tons per hour, equipped with a baghouse for particulate control, exhausting to

stack 283C.

(j) A gypsum transfer and handling system, installed in 2008, with a nominal throughput of 72 tons of gypsum per hour, consisting of the following equipment:

(1) One (1) gypsum vacuum belt press dewatering system, installed in 2008, with a nominal capacity of 72 tons of gypsum per hour, emissions are uncontrolled and exhausting through vent 248 to ambient atmosphere.

(2) One (1) saturated gypsum enclosed pipe conveyor, installed in 2008, with a nominal capacity of 72 tons of saturated gypsum per hour.

Under 40 CFR 60, Subpart OOO, these units are not considered affected units.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, particulate emissions from each of the following operations shall not exceed the pound per hour limits listed in the table below:

Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
Unloading Station (when handling coal)	1,300	81
Coal storage, handling drop points, crushers, and bunkers	1,300	81
Unloading Station (when handling limestone)	800	74.74
Limestone storage and handling drop points	500	68.96
Limestone wet ball mills	20	51
Dewatered gypsum transfer and handling system	72	48
Unit #1 Pneumatic Conveyor Air Filter/Separators	14	24
Unit #2 Pneumatic Conveyor Air Filter/Separators	14	24
Unit #3 Pneumatic Conveyor Air Filter/Separators	14	24
Unit #4 Pneumatic Conveyor Air Filter/Separator	30	40
Unit #1 Intermediate Flyash Silo	14	24
Unit #2 Intermediate Flyash Silo	14	24
Unit #3 Intermediate Flyash Silo	14	24
Unit #4 Intermediate Flyash Silo	30	40

Unit Description	**Max. Throughput Rate (tons/hr)**	**Particulate Emission Limit (lbs/hr)**
Flyash Loadout Silo	72	48
Unloading Station (when handling petroleum coke)	150	55.44

These limits are determined by the following equations:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

When the process weight rate exceeds two hundred (200) tons per hour, the maximum allowable emission may exceed E pounds per hour, provided the concentration of particulate matter in the discharge gases to the atmosphere is less than 0.10 pounds per one thousand (1,000) pounds of gases.

D.3.2 PSD Minor Limits [326 IAC 2-2]

In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the following conditions shall apply:

(a) The PM/PM_{10} emissions shall not exceed the following:

Process Description	Control (Stack/Vent)	PM Emission Limit (lbs/hr)	PM_{10} Emission Limit (lbs/hr)
Unloading Station for Barges Spud Hopper, Truck Loading Hopper, and conveyance points	Unloading Station for Barges Spud Hopper and Truck Loading Hopper Baghouse (244)	9.43	9.43
Limestone Day Silos No. 1, No. 2, and No. 3, and associated weight scales and conveyance drop points.	Limestone Day Silos Bin Vent Filters (245), (246), (247)	0.29	0.29
Unit #1 Flyash Transfer	Unit #1 Conveyor Baghouse (283A1)	0.37	0.37
Unit #2 Flyash Transfer	Unit #2 Conveyor Baghouse (283A2)	0.37	0.37
Unit #3 Flyash Transfer	Unit #3 Conveyor Baghouse (283A3)	0.37	0.37
Unit #4 Flyash Transfer	Unit #4 Conveyor	0.37	0.37

Process Description	Control (Stack/Vent)	PM Emission Limit (lbs/hr)	PM_{10} Emission Limit (lbs/hr)
	Baghouse (283B1)		
Unit #1-#3 Intermediate Storage	Unit #1-#3 Intermediate Silo Baghouse (283A)	0.03	0.03
Unit #4 Intermediate Storage	Unit #4 Intermediate Silo Baghouse (283B)	0.06	0.06
Flyash Storage/Loadout Silo	Baghouse (283C)	0.3	0.3

Compliance with these limits, in conjunction with the PM/PM10 fugitive emissions from the "Y-pit" gravel haul**,** associated limestone, gypsum, and calcium hydroxide road travel and limestone and gypsum storage piles, the unloading station for barges spud hopper, truck loading hopper, and conveyance points ensures the PM emissions from the limestone transfer, handling, and storage, shall not exceed 429.13 tons per year, and the PM_{10} emissions shall not exceed 145.93 tons per year.

(b) The coal and calcined petroleum coke throughput to the coal transfer station shall not exceed 3,707,969 tons per twelve (12) consecutive month period with compliance determined at the end of each month. The calcined petroleum coke throughput from the unloading station for barges spud hopper, truck loading hopper, and conveyance points shall not exceed 123,846 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits ensures the PM/PM10 emissions from the coal transfer station and calcined petroleum coke hauling, including PM/PM10 fugitive emissions from the associated road travel, shall not exceed 450 tons per year of PM and 340 tons per year of PM10.

Compliance with the PM/PM_{10} limits in Conditions D.1.1, and D.3.2 shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to Significant Source Modifications No. 173-22006-00002.

(c) The following conditions limitations shall apply to 211 rail car dumper operation;

(1) The PM emissions from the rail car dumper shall not exceed 24.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) The PM_{10} emissions from the rail car coal dumper shall not exceed 14.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits, combined with the potential to emit particulate emissions from other emission units at the source, shall limit the potential to emit of particulate matter (PM and PM_{10}) to less than Prevention of Significant Deterioration (PSD) significant levels, and render the requirements of 326 IAC 2-2 not applicable to the modification approved by 173-33817-00002.

D.3.3 Nonattainment New Source Review (NSR) Minor Limit for $PM_{2.5}$ [326 IAC 2-1.1-5]

In order to render 326 IAC 2-1.1-5 (Nonattainment New Source Review (NSR)) not applicable, the following conditions shall apply:

(a) The $PM_{2.5}$ emissions shall not exceed the following:

Process Description	Control (Stack/Vent)	PM2.5 Emission Limit (lbs/hr)
Unloading Station for Barges Spud Hopper, Truck Loading Hopper, and conveyance points	Hopper Baghouse (244)	9.43
Limestone Day Silos No. 1, No. 2, and No. 3, and associated weight scales and conveyance drop points.	Limestone Day Silos Bin Vent Filters (245), (246), (247)	0.29
Unit #1 Flyash Transfer	Unit #1 Conveyor Baghouse (283A1)	0.37
Unit #2 Flyash Transfer	Unit #2 Conveyor Baghouse (283A2)	0.37
Unit #3 Flyash Transfer	Unit #3 Conveyor Baghouse (283A3)	0.37
Unit #4 Flyash Transfer	Unit #4 Conveyor Baghouse (283B1)	0.37
Unit #1-#3 Intermediate Storage	Unit #1-#3 Intermediate Silo Baghouse (283A)	0.03
Unit #4 Intermediate Storage	Unit #4 Intermediate Silo Baghouse (283B)	0.06
Flyash Storage/Loadout Silo	Baghouse (283C)	0.3

Compliance with these limits, in conjunction with the PM2.5 fugitive emissions from the "Y-pit" gravel haul road, associated limestone, gypsum, and calcium hydroxide road travel and limestone and gypsum storage piles, ensures the $PM_{2.5}$ emissions from the limestone transfer, handling, and storage, shall not exceed 125.05 tons per year.

(b) The coal throughput to the coal transfer station shall not exceed 3,707,969 tons per twelve (12) consecutive month period and a calcined petroleum coke throughput of 123,456 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with this limit ensures the $PM_{2.5}$ emissions from the coal transfer station, including fugitive emissions from the associated road travel, shall not exceed 340 tons per year.

(c) The PM2.5 emissions from the unloading station for barges spud hopper, truck loading hopper, and conveyance points baghouse shall not exceed 7.07 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the $PM_{2.5}$ limits in Conditions D.1.2, D.3.3 shall render the requirements of 326 IAC 2-1.1-5-2 (Nonattainment New Source Review (NSR)) not applicable to Significant Source Modifications No. 173-22006-00002.

Compliance Determination Requirements

D.3.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) No later than December 31, 2015, and in order to demonstrate the compliance status

with conditions D.3.1 and D.3.2, the Permittee shall perform PM and PM10 testing of the limestone unloading operations utilizing methods as approved by the Commissioner These tests shall be repeated by December 31 of every fifth calendar year following the calendar year in which the most recent valid compliance demonstration was performed. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to performance testing required by t his condition.

(b) No later than December 31, 2015, and in order to demonstrate the compliance status with conditions D.3.1 and D.3.2, the Permittee shall perform PM and PM10 testing of the barge unloading of the coal operations utilizing methods as approved by the Commissioner. These tests shall be repeated by December 31 of every fifth calendar year following the calendar year in which the most recent valid compliance demonstration was performed. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to performance testing required by t his condition.

(c) No later than December 31, 2015, and in order to demonstrate the compliance status with conditions D.3.3, the Permittee shall perform PM2.5 testing of the following units, utilizing methods as approved by the Commissioner:

(1) Limestone day silos 1-3;
(2) Dry flyash storage and loadout system;
(3) Units 1-3 intermediate dry flyash storage silo;
(4) Unit 4 intermediate dry flyash storage silo;
(5) Units 1-4 dry flyash conveyors.

These tests shall be repeated by December 31 of every fifth calendar year following the calendar year in which the most recent valid compliance demonstration was performed. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to performance testing required by this condition.

(d) Within one hundred and eighty (180) days after initial startup, and in order to demonstrate the compliance status with conditions D.3.1 and D.3.2, the Permittee shall perform PM and PM10 testing of the barge unloading of the petroleum coke operations utilizing methods as approved by the Commissioner. These tests shall be repeated every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

D.3.5 Particulate Control [326 IAC 2-7-6(6)]

(a) Except as otherwise provided by statute or rule or in this permit, the watering system for the coal storage pile shall be in operation and control emissions as needed when coal is being unloaded. Except as otherwise provided by statute or rule or in this permit, the watering system for the limestone storage pile shall be in operation and control emissions as needed when limestone is being unloaded.

(b) Except as otherwise provided by statute or rule or in this permit, the dust collectors for particulate control shall be in operation and control emissions at all times the associated coal processing or conveyors are in operation.

(c) Except as otherwise provided by statute or rule or in this permit, the bin vent filters and the hopper baghouse for particulate control shall be in operation and control emissions at all times the associated limestone weighing, storage or conveyors are in operation.

(d) Except as otherwise provided by statute or rule or in this permit, the bin vent filters for particulate control shall be in operation and control emissions at all times when the flyash is being loaded into the loadout flyash silo or intermediate silos.

(e) Except as otherwise provided by statute or rule or in this permit, the rotoclones for particulate control shall be in operation and control emissions at all times the associated coal bunkers are in operation and the coal bunkers feed conveyor water sprays are not operating. In the event of simultaneous rotoclone and water spray system failure, a trained employee will make hourly visible emission observations at the coal bunker feed conveyor area to confirm the absence of dusting while the conveyor continues operating.

(f) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

(g) Whenever the rail car dumper is in operation, the wet suppression system shall be in operation and control particulate emissions from the rail car coal dumper operation, except during the following conditions:

(1) The ambient air temperature is at or below 32°F; or

(2) There is active precipitation at the railcar dumper location.

D.3.6 Compliance Determination Requirements

In order to demonstrate compliance with Condition D.3.2(c) - PSD Minor Limits, the particulate emissions from the railcar dumper shall be determined based on the following formulas:

Monthly PM Emissions = $0.0509 \times [Coal_{(unc.)} + Coal_{(w.s.)} \times (1 - CE)]$

and

Monthly PM_{10} Emissions = $0.0241 \times [Coal_{(unc.)} + Coal_{(w.s.)} \times (1 - CE)]$

where: 0.0509 = PM Emission limit (lb/ton), or as determined from the latest IDEM approved performance test.

0.0241 = PM_{10} Emission limit (lb/ton), or as determined from the latest IDEM approved performance test.

$Coal_{(unc)}$ = Coal dumped with no wet suppression (tons/mo.)
$Coal_{(w.s)}$ = Coal dumped using wet suppression (tons/mo.)
CE = Wet suppression control efficiency: 90%

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.7 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The following conditions shall apply to the coal transfer station, the limestone, and the gypsum transfer and handling system:

(1) Visible emission notations of the coal drop points, coal transfer points, coal crushers, the limestone, and the gypsum transfer and handling system exhaust vent (248) shall be performed once per week during normal daylight operations.

A trained employee shall record whether the emissions are normal or abnormal.

(2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation.

(3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(4) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(5) If abnormal emissions are observed from the coal unloading station drop points, coal transfer station exhausts, or coal crushers, the Permittee shall take reasonable response steps. Visible emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions), 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.

(b) Pursuant to 40 CFR 64, the following conditions shall apply to the coal, limestone and petroleum coke unloading station:

(1) Visible emission notations of the coal, limestone and petroleum coke unloading station baghouse exhaust (244) shall be performed once per week. A trained employee shall record whether any emissions are observed.

(2) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(3) If visible emissions are observed, the Permittee shall suspend operations controlled by this baghouse within 1 hour of the observance of visible emissions and shall not resume these operations until the cause of the visible emissions has been identified and corrected. Failure to take the response steps outlined above shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.

(c) The following conditions shall apply to the dry flyash storage and loadout system:

(1) Visible emission notations of the Stack exhausts for Unit #1 Conveyor Baghouse (283A1), Unit #2 Conveyor Baghouse (283A2), Unit #3 Conveyor Baghouse (283A3), Unit #4 Conveyor Baghouse (283B1), Unit #1-#3 Intermediate Silo Baghouse (283A), Unit #4 Intermediate Silo Baghouse (283B), and the Flyash Storage/Loadout Silo Baghouse (283C) shall be performed at least once per day during normal daylight operations.

(2) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(3) If visible emissions are observed, and the emission units that exhaust to the exhaust stacks listed in D.3.6(c) cannot be shutdown within one (1) hour of the visible emissionsobservation, an employee certified to perform an EPA Method 9 evaluation shall determine whether opacity exceeds five percent (5%) in one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, and:

(1) If opacity exceeds five percent (5%) per Method 9, the Permittee shall shutdown the associated process as soon as practical unless either:

(i) the Permittee is able to bring the opacity below five percent (5%) within a reasonable period of time, or

(ii) the situation qualifies as an “emergency” under 326 IAC 2-7-1(12). If the Permittee continues to operate the associated process after determining the opacity exceeds five percent (5%) per Method 9, then the Permittee shall perform an additional Method 9 reading every four (4) daylight hours until theopacity is below five percent (5%) per Method 9.

(2) If opacity does not exceed five percent (5%) per the Method 9 observation referenced above, inspection of the baghouse shall be scheduled at the next available process down time. Repairs shall be scheduled as expeditiously as practical, based on the inspection results.

Failure to take the response steps required by Condition D.3.6(c) upon observation of visible emissions, shall be considered a deviation from this permit.

D.3.8 Particulate Control [326 IAC 2-7-6(6)]

In the event that rotoclones failure has been observed and the coal bunker conveyor water sprays are not operating, thus resulting in visible emissions in the bunker conveyor area:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.9 Record Keeping Requirements

(a) To document the compliance status with Section C - Opacity, Section C - Fugitive Dust Emissions, and Condition D.3.7 (a), the Permittee shall maintain a log of the weekly visible emission notations of the coal transfer station drop points and transfer points, the coal crushers, the limestone, and the gypsum transfer and handling system.

(b) To document the compliance status with Section C - Opacity, Section C - Fugitive Dust Emissions, and Condition 3.7(b), the Permittee shall maintain a weekly record of the visible emission notations of the coal, limestone, and petroleum coke unloading station baghouse exhaust (244). The Permittee shall include in its weekly record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate).

(c) To document the compliance status with Condition D.3.7 (c) - Visible Emission Notation, the Permittee shall maintain records of visible emission notations of Stack exhaust from Unit #1 Conveyor Baghouse (283A1), Unit #2 Conveyor Baghouse (283A2), Unit #3 Conveyor Baghouse (283A3), Unit #4 Conveyor Baghouse (283B1), Unit #1-#3 Intermediate Silo Baghouse (283A), Unit #4 Intermediate Silo Baghouse (283B), and the Flyash Storage/Loadout Silo Baghouse (283C) once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(d) To document the compliance status with Conditions D.3.2 (b) and D.3.3 (b) (2), the Permittee shall maintain records of the coal usage.

(e) In order to document compliance status with condition D.3.2(c), the Permittee shall maintain monthly records of the particulate emissions from the car coal dumper. These shall include:

(1) PM emissions; and

(2) PM_{10} emissions.

(f) Section C - General Record Keeping Requirements, contains the Permittee's obligation with regard to the records required by this condition.

SECTION D.4 FACILITY OPERATION CONDITIONS - Diesel Engines

Facility Description [326 IAC 2-7-5(14)]

(k) Various diesel engine driven pumps, each with a rated capacity of less than 500 horsepower, identified as Y-pit Pumps approved for construction in 2008, provided the total combined horsepower of all diesel engine driven pumps does not exceed 1000 horsepower, located at the Y-pit for the purpose of removing rainwater. Pursuant to 40 CFR 1068.30, these Y-pit Pumps are considered nonroad engines. Therefore, under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, the Y-pit Pumps are not considered to be stationary internal combustion engines.

(l) Two (2) rental diesel units that shall not exceed 775 hp each, permitted in 2008, identified as Engine1 and Engine2. Pursuant to 40 CFR 1068, the rental diesel units are considered nonroad engines. Therefore, under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, the engines are not considered to be stationary internal combustion engines.

Note: These rental diesel units will be installed on an as-needed basis.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Nonroad Engines [326 IAC 12] [40 CFR 60, Subpart IIII] [326 IAC 20-82] [40 CFR 63, Subpart ZZZZ]

In order to render the requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60, Subpart IIII), which are incorporated by reference as 326 IAC 12, and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ), which are incorporated by reference as 326 IAC 20-82, not applicable, and to ensure the Y-pit Pumps and Engine1 and Engine2 are nonroad engines, as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), the Permittee shall comply with the following:

(a) The Y-pit Pumps and Engine1 and Engine2 shall remain at a location for a period not to exceed twelve (12) consecutive months.

(b) Any unit that replaces the Y-pit Pumps and Engine1 and Engine2 at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.

(c) For the purposes of this condition and pursuant to 40 CFR 1069.30 Nonroad Engine (2)(iii), a location is any single site at a building, structure, facility, or installation.

Compliance with these limits shall render the requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60, Subpart IIII) and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) not applicable.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.2 Record Keeping Requirements

(a) The Permittee shall maintain records of the dates of installation and removal of units identified as the Y-pit Pumps, Engine1 and Engine2 as each unit is installed and removed.

(b) The Permittee shall maintain records of the make, and horsepower of each rental diesel unit brought onto the site.

(c) The Permittee shall maintain records of the fuel type and usage of units Y-pit Pumps, Engine1 and Engine2.

(d) Section C - General Record Keeping Requirements, contains the Permittee's obligation with regard to the records required by this condition.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

The following insignificant activities:

(a) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6.

(b) Flyash handling facility and transport systems, wet flyash sluiced and conveyed to one (1) ash pond, with a combined surface area of 61.2 acres.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Organic Solvent Degreasing Operation [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2, the Permittee shall:

(a) The owner or operator of a cold cleaner degreaser shall ensure the following control equipment and operating requirements are met:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.

(5) Proved a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) The owner or operator of a cold cleaner degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one-hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) A refrigerated chiller.

(D) Carbon adsorption.

(E) An alternative system demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:

(A) Must be solid, fluid stream; and

(B) Shall be applied at a pressure that does not cause excessive splashing.

D.5.2 Material Requirements for Cold Cleaner Degreasers

(a) Material requirements specified in this section for use in cold cleaner degreasers apply as follows:

(1) Before January 1, 2015, in Clark, Floyd, Lake, and Porter counties.

(2) On or after January 1, 2015, anywhere in the state.

(b) Material requirements are as follows:

(1) No person shall cause or allow the sale of solvents for use in cold cleaner degreasing operations with a VOC composite partial vapor pressure, when diluted at the manufacturer's recommended blend and dilution, that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit) in an amount greater than five (5) gallons during seven (7) consecutive days to an individual or business.

(2) No person shall operate a cold cleaner degreaser with a solvent has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

(c) Record keeping requirements are as follows;

(1) All persons subject to the requirements of subsection (b)(1) shall maintain all of the following records for each sale:

(A) The name and address of the solvent purchaser.

(B) The date of sale (or invoice/bill date of contract servicer indicating service date).

(C) The type of solvent sold.

(D) The volume of each unit of solvent sold.

(E) The total volumen of the solvent sold.

(F) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

(2) All persons subject to the requirements of subsection (b)(2) shall maintain each of the following records for each purchase:

(A) The name and address of the solvent supplier.

(B) The date of purchase (or invoice/bill date of contract servicer indicating service date).

(C) The type of solvent purchased.

(D) The total volume of the solvent purchased.

(E) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

(d) All records required by subsection (c) shall be:

(1) Retained on-site or accessible electronically from the site for the most recent three (3) year period; and

(2) reasonably accessible for an additional two (2) year period.

SECTION E TITLE IV ACID RAIN PROGRAM CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(a) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 1, construction commenced on July 26, 1956, with an on-line date of April 1960, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-1, which is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NO_x), carbon dioxide (CO_2), sulfur dioxide (SO_2), and particulate matter (PM). Boiler No. 1 was configured with a low NO_x burner and over-fire air in 2003. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 1 were installed in 2008.

Note: Boiler No. 1 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(b) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 2, construction commenced on July 26, 1956, with an on-line date of January 1964, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-2, is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NOx), carbon dioxide (CO2), sulfur dioxide (SO2), and particulate matter (PM). Boiler No. 2 was configured with a low NOx burner and over-fire air in 2004. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 2 were installed in 2008.

Note: Boiler No. 2 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(c) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 3, construction commenced on July 26, 1956, with an on-line date of October 1965, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-3, is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NOx), carbon dioxide (CO2), sulfur dioxide (SO2), and particulate matter (PM). Boiler No. 3 was configured with a low NOx burner and over-fire air in 2002. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 3 were installed in 2008.

Note: Boiler No. 3 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(d) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 4, construction commenced on March 16, 1968, with an electrostatic precipitator (ESP) for control of particulate matter. Boiler No. 4 was configured with a low NOx burner in 1998, a Selective Catalytic Reduction (SCR) system permitted and constructed in 2004, a wet FGD scrubber, which commenced operation in 2008, and a reagent injection system that will reduce sulfuric acid emissions exiting the SCR, constructed in 2009. Boiler No. 4 has a nominal heat input capacity of 2,958 MMBtu/hr, and vents to Stack 243, which has continuous emissions monitors (CEMs) for nitrogen oxides (NOx), carbon dioxide (CO2), and sulfur dioxide (SO2), and a continuous opacity monitor (COM). Boiler No. 4 has a natural gas burner for start-up and may be fired in conjunction with the coal-fired capability. Construction of a dedicated wet limestone slurry absorber scrubber began in 2005.

This unit is not an affected facility under NSPS Da because it did not commence construction, modification, or reconstruction after September 18, 1978, or after June 19, 1984. The low NO_x burner constructed in 1998, the SCR system constructed in 2004 and the wet FGD scrubber, constructed in 2008 do not qualify as modifications as defined by 40 CFR 60, Subpart A. Specifically, the physical change did not result in increase to the atmosphere of any air pollutant (to which a standard applies) or result in any air pollutant not previously emitted.

Boilers 1, 2, and 3 are owned and operated by Alcoa Power Generating, Inc. and are Opt-In units.

Boiler 4 is co-owned by Alcoa Power Generating, Inc. and Vectren and operated by Alcoa Power Generating, Inc.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Acid Rain Program

E.1 Acid Rain Permit [326 IAC 2-7-5(1)(C)] [326 IAC 21] [40 CFR 72 through 40 CFR 78]

Pursuant to 326 IAC 21 (Acid Deposition Control), the Permittee shall comply with all provisions of the Acid Rain permit issued for this source, and any other applicable requirements contained in 40 CFR 72 through 40 CFR 78. The Acid Rain permit for this source is attached to this permit as Appendix A, and is incorporated by reference.

E.2 Title IV Emissions Allowances [326 IAC 2-7-5(4)] [326 IAC 21]

Emissions exceeding any allowances that the Permittee lawfully holds under the Title IV Acid Rain Program of the Clean Air Act are prohibited, subject to the following limitations:

(a) No revision of this permit shall be required for increases in emissions that are authorized by allowances acquired under the Title IV Acid Rain Program, provided that such increases do not require a permit revision under any other applicable requirement.

(b) No limit shall be placed on the number of allowances held by the Permittee. The Permittee may not use allowances as a defense to noncompliance with any other applicable requirement.

(c) Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Clean Air Act.

SECTION G.1 FACILITY OPERATION CONDITIONS - Standards of Performance for Stationary Nonmetallic Mineral Processing Plants

Facility Description [326 IAC 2-7-5(14)]

(h) A limestone transfer and handling system, approved for construction in 2008, with a nominal throughput of 500 tons of limestone per hour, consisting of the following equipment:

(2) One (1) limestone hopper, receiving limestone from the stockpiles via front end loaders, emissions uncontrolled and exhausting to ambient air.

(3) One (1) enclosed pipe conveyor, transferring limestone from the limestone hopper to one (1) of the three (3) limestone day silos, emissions controlled by the limestone day silos bin vent filters.

(4) Three (3) limestone day silos No. 1 - No. 3, each with maximum throughput capacity of 20.0 tons per hour, each equipped with a bin vent filter for particulate control, exhausting to vents 245, 246, and 247, respectively.

(5) Three (3) weigh scales, each with a maximum capacity of 20.0 tons per hour, each receiving material from one of the limestone day silos and transferring limestone to one (1) of three (3) gravity discharge chutes, all emissions control by the limestone day silos' bin vent filters, and exhausting to vents 245, 246, and 247.

(6) Three (3) wet ball mill crushers, receiving limestone from weigh scales via the three (3) gravity discharge chutes. The transfer point is enclosed and emissions are controlled by the limestone day silos' bin vent filters, and exhausting to vents 245, 246, and 247.

Under 40 CFR 60, Subpart OOO, the one (1) limestone hopper, one (1) pipe conveyor, three (3) limestone day silos, three (3) weigh scales, three (3) gravity discharge chutes, and three (3) wet ball mill crushers are considered affected units.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

G.1.1 General Provisions Relating to New Source Performance Standards (NSPS) [326 IAC 12-1] [40 CFR 60, Subpart A] [326 IAC 12]

The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the limestone material handling equipment except when otherwise specified in 40 CFR 60, Subpart OOO.

G.1.2 Standards of Performance for Stationary Nonmetallic Mineral Processing Plants [40 CFR Part 60, Subpart OOO] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart 000, the Permittee shall comply with the provisions of Standards of Performance for Stationary Nonmetallic Mineral Processing Plants, which are incorporated by reference as 326 IAC 12, for the limestone material handling equipment as follows:

(1) 40 CFR 60.670(a)
(2) 40 CFR 60.670(d)
(3) 40 CFR 60.670(e)

(4) 40 CFR 60.670(f)
(5) Table 1 to 40 CFR 60, Subpart OOO
(6) 40 CFR 60.671
(7) 40 CFR 60.672
(8) 40 CFR 60.673(b)
(9) 40 CFR 60.675(a)
(10) 40 CFR 60.675(b)
(11) 40 CFR 60.675(c)
(12) 40 CFR 60.675(d)
(13) 40 CFR 60.675(e)
(14) 40 CFR 60.675(f)
(15) 40 CFR 60.675(g)
(16) 40 CFR 60.675 (h)(1)
(17) 40 CFR 60.676(a)
(18) 40 CFR 60.676(f)
(19) 40 CFR 60.676(g)
(20) 40 CFR 60.676(h)
(21) 40 CFR 60.676 (i)(1)
(22) 40 CFR 60.676(j)

SECTION G.2 FACILITY OPERATION CONDITIONS - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines and National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Specifically Regulated Insignificant Activities

(c) Emergency generators not exceeding 1,600 hp:

(1) One (1) stationary diesel emergency generator, identified as 202, manufactured and constructed prior to July 22, 2005, rated at 201 hp.

(2) One (1) stationary diesel emergency generator, identified as 231, manufactured and constructed prior to July 22, 2005, rated at 201 hp.

Under 40 CFR 63, Subpart ZZZZ, the emergency generators are considered to be affected units.

(d) Stationary firepump engines:

(1) One (1) stationary diesel emergency firewater pump engine, identified as 281, manufactured on July 22, 2005, constructed in 2008, rated at 465 hp.

(2) One (1) stationary diesel emergency firewater pump engine, identified as 203, manufactured and constructed prior to July 22, 2005, rated at 121 hp.

Under 40 CFR 63, Subpart ZZZZ, the firewater pump engines are considered to be affected units.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

National Emissions Standards for Hazardous Air Pollutants Requirements [326 IAC 2-7-5(1)]

G.2.1 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [326 IAC 20-81] [40 CFR Part 63, Subpart ZZZZ]

Pursuant to 40 CFR 63.6590(c), the Permittee shall comply with the requirements of 40 CFR Part 63, Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines), which are incorporated by reference as 326 IAC 20-81. The emergency firewater pumps and the emergency generators shall comply with the following portions of 40 CFR 63, Subpart ZZZZ:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a) and (b)
(3) 40 CFR 63.6590(a)(1)(ii)
(4) 40 CFR 63.6590(a)(1)(iv)
(5) 40 CFR 63.6595(a)(1)
(6) 40 CFR 63.66595(c)
(7) 40 CFR 63.6602
(8) 40 CFR 63.6605
(9) 40 CFR 63.6612(a)
(10) 40 CFR 63.6625(e)

(11) 40 CFR 63.6625(f)
(12) 40 CFR 63.6625(h)
(13) 40 CFR 63.6625(i)
(14) 40 CFR 63.63.6640(a), (b), (e), and (f)
(15) 40 CFR 63.6645(a)(5)
(16) 40 CFR 63.6650(f)
(17) 40 CFR 63.6655(d)
(18) 40 CFR 63.6655(e)(2)
(19) 40 CFR 63.6655(f)(1)
(20) 40 CFR 63.6660
(21) 40 CFR 63.6665
(22) 40 CFR 63.6670
(23) 40 CFR 63.6675
(24) 40 CFR 63, Table 2c
(25) 40 CFR 63 Table 6
(26) 40 CFR 63Table 8

SECTION G.3 FACILITY OPERATION CONDITIONS - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Facility Description [326 IAC 2-7-5(14)]

(a) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 1, construction commenced on July 26, 1956, with an on-line date of April 1960, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-1, which is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NO_x), carbon dioxide (CO_2), sulfur dioxide (SO_2), and particulate matter (PM). Boiler No. 1 was configured with a low NO_x burner and over-fire air in 2003. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 1 were installed in 2008.

Note: Boiler No. 1 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(b) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 2, construction commenced on July 26, 1956, with an on-line date of January 1964, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-2, is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NOx), carbon dioxide (CO2), sulfur dioxide (SO2), and particulate matter (PM). Boiler No. 2 was configured with a low NOx burner and over-fire air in 2004. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 2 were installed in 2008.

Note: Boiler No. 2 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(c) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 3, construction commenced on July 26, 1956, with an on-line date of October 1965, with a nominal heat input capacity of 1,589 million Btu per hour (MMBtu/hr), with an electrostatic precipitator (ESP) for control of particulate matter and exhausting to Stack 241-3, is equipped with continuous emissions monitors (CEMS) for nitrogen oxides (NOx), carbon dioxide (CO2), sulfur dioxide (SO2), and particulate matter (PM). Boiler No. 3 was configured with a low NOx burner and over-fire air in 2002. A dedicated wet limestone slurry absorber scrubber for control of particulate and sulfur dioxide, and modifications to Boiler No. 3 were installed in 2008.

Note: Boiler No. 3 is capable of burning non-hazardous carbon anode production waste from Alcoa Inc. - Warrick Operations (Plt. ID 173-00007).

Under the Standards of Performance for Industrial-Commercial Steam Generating Units (40 CFR Part 60, Subpart Db), this boiler is considered an affected facility due to a modification occurring after February 28, 2005.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

G.3.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for Boilers No. 1, No. 2, and No. 3 except as otherwise specified in 40 CFR Part 60, Subpart Db.

G.3.2 New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units: Requirements [40 CFR Part 60, Subpart Db] [326 IAC 12]

Pursuant to 40 CFR 60.40b, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart Db for Boiler 1, Boiler 2, and Boiler 3, as specified as follows:

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.40b(g)
(3) 40 CFR 60.40b(j)
(4) 40 CFR 60.41b
(5) 40 CFR 60.42b(e)
(6) 40 CFR 60.42b(g)
(7) 40 CFR 60.42b(h)
(8) 40 CFR 60.42b (k)(4)
(9) 40 CFR 60.43b(e)
(10) 40 CFR 60.43b(f)
(11) 40 CFR 60.43b(g)
(12) 40 CFR 60.43b(h)
(13) 40 CFR 60.44b(a)
(14) 40 CFR 60.44b(b
(15) 40 CFR 60.44b(c)
(16) 40 CFR 60.44b(h)
(17) 40 CFR 60.44b(i)
(18) 40 CFR 60.45b(a)
(19) 40 CFR 60.45b(b)
(20) 40 CFR 60.45b (c)(1)
(21) 40 CFR 60.45b (c)(2)
(22) 40 CFR 60.45b (c)(3)
(23) 40 CFR 60.45b (c)(4)
(24) 40 CFR 60.45b (c)(5)
(25) 40 CFR 60.45b(f)
(26) 40 CFR 60.45b(g)
(27) 40 CFR 60.45b(h)
(28) 40 CFR 60.45b(i)
(29) 40 CFR 60.46b(a)
(30) 40 CFR 60.46b(b)
(31) 40 CFR 60.46b(c)
(32) 40 CFR 60.46b (d)(7)
(33) 40 CFR 60.46b (e)(1)
(34) 40 CFR 60.46b (e)(2)
(35) 40 CFR 60.46b (e)(3)
(36) 40 CFR 60.46b(j)
(37) 40 CFR 60.47b(a)
(38) 40 CFR 60.47b(c)
(39) 40 CFR 60.47b(d)
(40) 40 CFR 60.47b(e)
(41) 40 CFR 60.48b(b)

(42) 40 CFR 60.48b(c)
(43) 40 CFR 60.48b(d)
(44) 40 CFR 60.48b(e)
(45) 40 CFR 60.48b(f)
(46) 40 CFR 60.48b (j)(1)
(47) 40 CFR 60.48b(k)
(48) 40 CFR 60.49b(a)
(49) 40 CFR 60.49b(b)
(50) 40 CFR 60.49b(d)
(51) 40 CFR 60.49b(f)
(52) 40 CFR 60.49b(g)
(53) 40 CFR 60.49b (h)(1)
(54) 40 CFR 60.49b (h)(2)
(55) 40 CFR 60.49b (h)(3)
(56) 40 CFR 60.49b(i)
(57) 40 CFR 60.49b(j)
(58) 40 CFR 60.49b(k)
(59) 40 CFR 60.49b(l)
(60) 40 CFR 60.49b(n)
(61) 40 CFR 60.49b(o)
(62) 40 CFR 60.49b(v)
(63) 40 CFR 60.49b(w)

SECTION H Clean Air Interstate Rule (CAIR) Nitrogen Oxides Annual, Sulfur Dioxide, and Nitrogen Oxides Ozone Season Trading Programs – CAIR Permit for CAIR Units Under 326 IAC 24-1-1(a), 326 IAC 24-2-1(a), and 326 IAC 24-3-1(a)

Facility Description [326 IAC 2-7-5(14)]

(d) One (1) dry bottom, pulverized coal-fired boiler, identified as Boiler No. 4, construction commenced on March 16, 1968, with an electrostatic precipitator (ESP) for control of particulate matter. Boiler No. 4 was configured with a low NOx burner in 1998, a Selective Catalytic Reduction (SCR) system permitted and constructed in 2004, and a reagent injection system that will reduce sulfuric acid emissions exiting the SCR, constructed in 2009. Boiler No. 4 has a nominal heat input capacity of 2,958 MMBtu/hr, and vents to Stack 243, which has continuous emissions monitors (CEMs) for nitrogen oxides (NOx), carbon dioxide (CO2), and sulfur dioxide (SO2), and a continuous opacity monitor (COM). Boiler No. 4 has a natural gas burner for start-up and may be fired in conjunction with the coal-fired capability. Construction of a dedicated wet limestone slurry absorber scrubber began in 2005.

This unit is not an affected facility under NSPS Da because it did not commence construction, modification, or reconstruction after September 18, 1978, or after June 19, 1984. The low NO_X burner constructed in 1998 and the SCR system constructed in 2004 do not qualify as modifications as defined by 40 CFR 60, Subpart A. Specifically, the physical change did not result in increased to the atmosphere of any air pollutant (to which a standard applies) or result in any air pollutant not previously emitted.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

H.1 Automatic Incorporation of Definitions [326 IAC 24-1-7(e)] [326 IAC 24-2-7(e)] [326 IAC 24-3-7(e)] [40 CFR 97.123(b)] [40 CFR 97.223(b)] [40 CFR 97.323(b)]

This CAIR permit is deemed to incorporate automatically the definitions of terms under 326 IAC 24-1-2, 326 IAC 24-2-2, and 326 IAC 24-3-2.

H.2 Standard Permit Requirements [326 IAC 24-1-4(a)] [326 IAC 24-2-4(a)] [326 IAC 24-3-4(a)] [40 CFR 97.106(a)] [40 CFR 97.206(a)] [40 CFR 97.306(a)]

(a) The Permittee shall operate each source and unit in compliance with this CAIR permit.

(b) The CAIR NO_X unit, subject to this CAIR permit is Unit 4. The CAIR SO_2 units subject to this CAIR permit are Units 1, 2, 3, and 4. The CAIR NO_X ozone season units subject to this CAIR permit is Unit 4 and large affected Warrick units 1, 2, and 3.

H.3 Monitoring, Reporting, and Record Keeping Requirements [326 IAC 24-1-4(b)] [326 IAC 24-2-4(b)] [326 IAC 24-3-4(b)] [40 CFR 97.106(b)] [40 CFR 97.206(b)] [40 CFR 97.306(b)]

(a) The owners and operators, and the CAIR designated representative, of each CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source and CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit at the source shall comply with the applicable monitoring, reporting, and record keeping requirements of 326 IAC 24-1-11, 326 IAC 24-2-10, and 326 IAC 24-3-11.

(b) The emissions measurements recorded and reported in accordance with 326 IAC 24-1-11, 326 IAC 24-2-10, and 326 IAC 24-3-11 shall be used to determine compliance by each CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source with the CAIR NO_X emissions limitation under 326 IAC 24-1-4(c), CAIR SO_2

emissions limitation under 326 IAC 24-2-4(c), and CAIR NO_X ozone season emissions limitation under 326 IAC 24-3-4(c) and Condition H.4.1, Nitrogen Oxides Emission Requirements, Condition H.4.2, Sulfur Dioxide Emission Requirements, and Condition H.4.3, Nitrogen Oxides Ozone Season Emission Requirements.

H.4.1 Nitrogen Oxides Emission Requirements [326 IAC 24-1-4(c)] [40 CFR 97.106(c)]

(a) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_X source and each CAIR NO_X unit at the source shall hold, in the source's compliance account, CAIR NO_X allowances available for compliance deductions for the control period under 326 IAC 24-1-9(i) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_X units at the source, as determined in accordance with 326 IAC 24-1-11.

(b) A CAIR NO_X unit shall be subject to the requirements under 326 IAC 24-1-4(c)(1) for the control period starting on the applicable date, as determined under 326 IAC 24-1-4(c)(2), and for each control period thereafter.

(c) A CAIR NO_X allowance shall not be deducted for compliance with the requirements under 326 IAC 24-1-4(c)(1), for a control period in a calendar year before the year for which the CAIR NO_X allowance was allocated.

(d) CAIR NO_X allowances shall be held in, deducted from, or transferred into or among CAIR NO_X allowance tracking system accounts in accordance with 326 IAC 24-1-9, 326 IAC 24-1-10, and 326 IAC 24-1-12.

(e) A CAIR NO_X allowance is a limited authorization to emit one (1) ton of nitrogen oxides in accordance with the CAIR NO_X annual trading program. No provision of the CAIR NO_X annual trading program, the CAIR permit application, the CAIR permit, or an exemption under 326 IAC 24-1-3 and no provision of law shall be construed to limit the authority of the State of Indiana or the United States to terminate or limit the authorization.

(f) A CAIR NO_X allowance does not constitute a property right.

(g) Upon recordation by the U.S. EPA under 326 IAC 24-1-8, 326 IAC 24-1-9, 326 IAC 24-1-10, or 326 IAC 24-1-12, every allocation, transfer, or deduction of a CAIR NO_X allowance to or from a CAIR NO_X source's compliance account is incorporated automatically in this CAIR permit.

H.4.2 Sulfur Dioxide Emission Requirements [326 IAC 24-2-4(c)] [40 CFR 97.206(c)]

(a) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO_2 source and each CAIR SO_2 unit at the source shall hold, in the source's compliance account, a tonnage equivalent of CAIR SO_2 allowances available for compliance deductions for the control period under 326 IAC 24-2-8(j) and 326 IAC 24-2-8(k) not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO_2 units at the source, as determined in accordance with 326 IAC 24-2-10.

(b) A CAIR SO_2 unit shall be subject to the requirements under 326 IAC 24-2-4(c)(1) for the control period starting on the applicable date, as determined under 326 IAC 24-2-4(c)(2), and for each control period thereafter.

(c) A CAIR SO_2 allowance shall not be deducted for compliance with the requirements under 326 IAC 24-2-4(c)(1), for a control period in a calendar year before the year for which the CAIR SO_2 allowance was allocated.

(d) CAIR SO_2 allowances shall be held in, deducted from, or transferred into or among CAIR SO_2 allowance tracking system accounts in accordance with 326 IAC 24-2-8, 326 IAC 24-2-9, and 326 IAC 24-2-11.

(e) A CAIR SO_2 allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO_2 trading program. No provision of the CAIR SO_2 trading program, the CAIR permit application, the CAIR permit, or an exemption under 326 IAC 24-2-3 and no provision of law shall be construed to limit the authority of the State of Indiana or the United States to terminate or limit the authorization.

(f) A CAIR SO_2 allowance does not constitute a property right.

(g) Upon recordation by the U.S. EPA under 326 IAC 24-2-8, 326 IAC 24-2-9, or 326 IAC 24-2-11, every allocation, transfer, or deduction of a CAIR SO_2 allowance to or from a CAIR SO_2 source's compliance account is incorporated automatically in this CAIR permit.

H.4.3 Nitrogen Oxides Ozone Season Emission Requirements [326 IAC 24-3-4(c)] [40 CFR 97.306(c)]

(a) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall hold, in the source's compliance account, CAIR NO_X ozone season allowances available for compliance deductions for the control period under 326 IAC 24-3-9(i) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_X ozone season units at the source, as determined in accordance with 326 IAC 24-3-11.

(b) A CAIR NO_X ozone season unit shall be subject to the requirements under 326 IAC 24-3-4(c)(1) for the control period starting on the applicable date, as determined under 326 IAC 24-3-4(c)(2), and for each control period thereafter.

(c) A CAIR NO_X ozone season allowance shall not be deducted for compliance with the requirements under 326 IAC 24-3-4(c)(1), for a control period in a calendar year before the year for which the CAIR NO_X ozone season allowance was allocated.

(d) CAIR NO_X ozone season allowances shall be held in, deducted from, or transferred into or among CAIR NO_X ozone season allowance tracking system accounts in accordance with 326 IAC 24-3-9, 326 IAC 24-3-10, and 326 IAC 24-3-12.

(e) A CAIR NO_X ozone season allowance is a limited authorization to emit one (1) ton of nitrogen oxides in accordance with the CAIR NO_X ozone season trading program. No provision of the CAIR NO_X ozone season trading program, the CAIR permit application, the CAIR permit, or an exemption under 326 IAC 24-3-3 and no provision of law shall be construed to limit the authority of the State of Indiana or the United States to terminate or limit the authorization.

(f) A CAIR NO_X ozone season allowance does not constitute a property right.

(g) Upon recordation by the U.S. EPA under 326 IAC 24-3-8, 326 IAC 24-3-9, 326 IAC 24-3-10, or 326 IAC 24-3-12, every allocation, transfer, or deduction of a CAIR NO_X ozone season allowance to or from a CAIR NO_X ozone season source's compliance account is incorporated automatically in this CAIR permit.

H.5 Excess Emissions Requirements [326 IAC 24-1-4(d)] [326 IAC 24-2-4(d)] [326 IAC 24-3-4(d)] [40 CFR 97.106(d)] [40 CFR 97.206(d)] [40 CFR 97.306(d)]

(a) The owners and operators of a CAIR NO_X source and each CAIR NO_X unit that emits

nitrogen oxides during any control period in excess of the CAIR NO_X emissions limitation shall do the following:

(1) Surrender the CAIR NO_X allowances required for deduction under 326 IAC 24-1-9(j)(4).

(2) Pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, the Clean Air Act (CAA) or applicable state law.

Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 326 IAC 24-1-4, the Clean Air Act (CAA), and applicable state law.

(b) The owners and operators of a CAIR SO_2 source and each CAIR SO_2 unit that emits sulfur dioxide during any control period in excess of the CAIR SO_2 emissions limitation shall do the following:

(1) Surrender the CAIR SO_2 allowances required for deduction under 326 IAC 24-2-8(k)(4).

(2) Pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, the Clean Air Act (CAA) or applicable state law.

Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 326 IAC 24-2-4, the Clean Air Act (CAA), and applicable state law.

(c) The owners and operators of a CAIR NO_X ozone season source and each CAIR NO_X ozone season unit that emits nitrogen oxides during any control period in excess of the CAIR NO_X ozone season emissions limitation shall do the following:

(1) Surrender the CAIR NO_X ozone season allowances required for deduction under 326 IAC 24-3-9(j)(4).

(2) Pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, the Clean Air Act (CAA) or applicable state law.

Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 326 IAC 24-3-4, the Clean Air Act (CAA), and applicable state law.

H.6 Record Keeping Requirements [326 IAC 24-1-4(e)] [326 IAC 24-2-4(e)] [326 IAC 24-3-4(e)] [326 IAC 2-7-5(3)] [40 CFR 97.106(e)] [40 CFR 97.206(e)] [40 CFR 97.306(e)]

Unless otherwise provided, the owners and operators of the CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source and each CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit at the source shall keep on site at the source or at a central location within Indiana for those owners or operators with unattended sources, each of the following documents for a period of five (5) years from the date the document was created:

(a) The certificate of representation under 326 IAC 24-1-6(h), 326 IAC 24-2-6(h), and 326 IAC 24-3-6(h) for the CAIR designated representative for the source and each CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation. The certificate and documents shall be retained on site at the source or at a central location within Indiana for those owners or operators with unattended sources beyond such five (5) year period until such documents are superseded because of the submission of a new account certificate of representation under 326 IAC 24-1-6(h), 326 IAC 24-2-6(h), and 326 IAC 24-3-6(h) changing the CAIR designated representative.

(b) All emissions monitoring information, in accordance with 326 IAC 24-1-11, 326 IAC 24-2-10, and 326 IAC 24-3-11, provided that to the extent that 326 IAC 24-1-11, 326 IAC 24-2-10, and 326 IAC 24-3-11 provides for a three (3) year period for record keeping, the three (3) year period shall apply.

(c) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program.

(d) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program or to demonstrate compliance with the requirements of the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program.

This period may be extended for cause, at any time before the end of five (5) years, in writing by IDEM, OAQ or the U.S. EPA. Unless otherwise provided, all records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

H.7 Reporting Requirements [326 IAC 24-1-4(e)] [326 IAC 24-2-4(e)] [326 IAC 24-3-4(e)] [40 CFR 97.106(e)] [40 CFR 97.206(e)] [40 CFR 97.306(e)]

(a) The CAIR designated representative of the CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source and each CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit at the source shall submit the reports required under the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program, including those under 326 IAC 24-1-11, 326 IAC 24-2-10, and 326 IAC 24-3-11.

(b) Pursuant to 326 IAC 24-1-4(e), 326 IAC 24-2-4(e), and 326 IAC 24-3-4(e) and 326 IAC 24-1-6(e)(1), 326 IAC 24-2-6(e)(1), and 326 IAC 24-3-6(e)(1), each submission under the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program shall include the following certification statement by the CAIR designated representative: “I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

(c) Where 326 IAC 24-1, 326 IAC 24-2, and 326 IAC 24-3 requires a submission to IDEM, OAQ, the information shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53, IGCN 1003
Indianapolis, Indiana 46204-2251

(d) Where 326 IAC 24-1, 326 IAC 24-2, and 326 IAC 24-3 requires a submission to U.S. EPA, the information shall be submitted to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue, NW
Mail Code 6204N
Washington, DC 20460

H.8 Liability [326 IAC 24-1-4(f)] [326 IAC 24-2-4(f)] [326 IAC 24-3-4(f)] [40 CFR 97.106(f)] [40 CFR 97.206(f)] [40 CFR 97.306(f)]

The owners and operators of each CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source and each CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit shall be liable as follows:

(a) Each CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source and each CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit shall meet the requirements of the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program, respectively.

(b) Any provision of the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program that applies to a CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source or the CAIR designated representative of a CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source shall also apply to the owners and operators of such source and of the CAIR NO_X units, CAIR SO_2 units, and CAIR NO_X ozone season units at the source.

(c) Any provision of the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program that applies to a CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit or the CAIR designated representative of a CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit shall also apply to the owners and operators of such unit.

H.9 Effect on Other Authorities [326 IAC 24-1-4(g)] [326 IAC 24-2-4(g)] [326 IAC 24-3-4(g)] [40 CFR 97.106(g)] [40 CFR 97.206(g)] [40 CFR 97.306(g)]

No provision of the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program, a CAIR permit application, a CAIR permit, or an exemption under 326 IAC 24-1-3, 326 IAC 24-2-3, and 326 IAC 24-3-3 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source or CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act (CAA).

H.10 CAIR Designated Representative and Alternate CAIR Designated Representative [326 IAC 24-1-6] [326 IAC 24-2-6] [326 IAC 24-3-6] [40 CFR 97, Subpart BB] [40 CFR 97, Subpart BBB] [40 CFR 97, Subpart BBBB]

Pursuant to 326 IAC 24-1-6, 326 IAC 24-2-6, and 326 IAC 24-3-6:

(a) Except as specified in 326 IAC 24-1-6(f)(3), 326 IAC 24-2-6(f)(3), and 326 IAC 24-3-6(f)(3), each CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source, including all CAIR NO_X units, CAIR SO_2 units, and CAIR NO_X ozone season units at the source, shall have one (1) and only one (1) CAIR designated representative, with regard to all matters under the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program concerning the source or any CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit at the source.

(b) The provisions of 326 IAC 24-1-6(f), 326 IAC 24-2-6(f), and 326 IAC 24-3-6(f) shall apply where the owners or operators of a CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source choose to designate an alternate CAIR designated representative.

Except as specified in 326 IAC 24-1-6(f)(3), 326 IAC 24-2-6(f)(3), and 326 IAC 24-3-6(f)(3), whenever the term "CAIR designated representative" is used, the term shall be construed to include the CAIR designated representative or any alternate CAIR designated representative.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
Signature:
Printed Name:
Title/Position:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boilers No. 1, No. 2, and No. 3
Parameter: PM Emissions
Limit: Shall be less than 1,060.0 tons per twelve (12) consecutive month period

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature:_____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boiler No. 4
Parameter: PM Emissions
(Calculated using the most recent PM emission factor in lb/MMBtu, approved by IDEM derived as specified by Condition D.1.11 (e))

Limit: Shall be less than 1,425.0 tons per twelve (12) consecutive month period.

QUARTER: _____ YEAR: _____

Month	PM (tons)	PM (tons)	PM (tons)
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boilers No. 1, No. 2, No. 3, and No. 4
Parameter: NOx Emissions
Limit: Shall be less than 13,720.0 tons per twelve (12) consecutive month period

QUARTER: _____ YEAR: _____

Month	NOx (tons)	NOx (tons)	NOx (tons)
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boilers No., 1, No. 2, No. 3, and No. 4
Parameter: H_2SO_4 Emissions
Limit: Shall be less than 677.0 tons per twelve (12) consecutive month period.

QUARTER: _____ YEAR: _____

Month	H_2SO_4 (tons)	H_2SO_4 (tons)	H_2SO_4 (tons)
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boilers No., 1, No. 2, No. 3, and No. 4
Parameter: PM_{10} Emissions
Limit: Shall be less than 4,490.0 tons per twelve (12) consecutive month period

QUARTER: _____ YEAR: _____

Month	PM_{10} (tons)	PM_{10} (tons)	PM_{10} (tons)
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boilers No., 1, No. 2, No. 3, and No. 4
Parameter: $PM_{2.5}$ Emissions
Limit: Shall be less than 4,490.0 tons per twelve (12) consecutive month period

QUARTER: _____ YEAR: _____

Month	PM_{10} (tons)	PM_{10} (tons)	PM_{10} (tons)
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boilers No. 1, No. 2, and No. 3
Parameter: CO Emissions
Limit: Shall be less than 2,099.80 tons per twelve (12) consecutive month period

QUARTER: _____ YEAR: _____

Month	CO (tons)	CO (tons)	CO (tons)
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boiler No. 1, 2, 3
Parameter: SO2 Emissions (Condition D.1.7 and D.1.9(c))
Limit: (a) Total shall not exceed 249.5 tons per day with compliance determined at the end of each day.
(b) Each unit shall not exceed 5.11 lb SO2 per MMBtu

QUARTER: _____ YEAR: _____

Date	Daily Average, lb SO2 / MMBtu			SO2 ton/day Units 1, 2, 3
	Unit 1	Unit 2	Unit 3	

Date	Daily Average, lb SO2 / MMBtu			SO2 ton/day

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boiler No. 1, 2, 3 and 4
Parameter: SO2 Emissions (Conditions D.1.9(a), D.1.9(b) and D.1.9(c))
Limit:
(a) Total of all units shall not exceed 157,206 tons per twelve consecutive month period with compliance determined at the end of each month based on 365 day rolling average.
(b) Unit 4 shall not exceed 181.2 tons per day with compliance determined at the end of each day.
(c) Total from Boilers No.1, No.2 and No.3 shall not exceed 249.5 tons/day with compliance determined at the end of each day

QUARTER: _____ YEAR: _____

Date	Units 1-3 SO2 Daily Tons	Unit 4 SO2 Daily Tons	Units 1-4 SO2 Daily Tons	365-day Rolling Average SO2 Total Tons

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Boiler No. 4
Parameter: SO2 Emissions (Condition D.1.7)
Limit: Unit 4 shall not exceed 5.11 lb SO2 per MMBtu

QUARTER: _____ YEAR: _____

Date	Daily Average lb SO2 / MMBtu	SO2 tons per day	365-day rolling average total SO2 Units 1, 2, 3 and 4

Date	Daily Average lb SO2 / MMBtu	SO2 tons per day	365-day rolling average total SO2 Units 1, 2, 3 and 4

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Rail Car Dumper
Parameter: PM Emissions
Limit: 24.8 tons per twelve consecutive month period

Quarter _____ Year _____

Month	PM (tons)	PM (tons)	PM (tons)
	This Month	Previous 11 Months	This Month + 11 Previous Months

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002
Facility: Rail Car Dumper
Parameter: PM_{10} Emissions
Limit: 14.8 tons per twelve consecutive month period

Quarter _____ Year _____

Month	PM_{10} (tons)	PM_{10} (tons)	PM_{10} (tons)
	This Month	Previous 11 Months	This Month + 11 Previous Months

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: ALCOA Power Generating, Inc - Warrick Power Plant
Source Address: 4700 Darlington Road, Newburgh, Indiana 47630
Part 70 Permit No.: T173-29684-00002

Months: _____ to _____ Year: _____

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This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C - General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".
☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

Attachment A

Electronic Code of Federal Regulations

Title 40: Protection of Environment

Part 60, Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants

Source: 74 FR 19309, Apr. 28, 2009, unless otherwise noted.

§ 60.670 Applicability and designation of affected facility.

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations (as defined in § 60.671).

(b) An affected facility that is subject to the provisions of subparts F or I of this part or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(c) Facilities at the following plants are not subject to the provisions of this subpart:

(1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in § 60.671, of 23 megagrams per hour (25 tons per hour) or less;

(2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in § 60.671, of 136 megagrams per hour (150 tons per hour) or less; and

(3) Common clay plants and pumice plants with capacities, as defined in § 60.671, of 9 megagrams per hour (10 tons per hour) or less.

(d)(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in § 60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§ 60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in § 60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§ 60.672, 60.674 and 60.675.

(e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

§ 60.671 Definitions.

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

Bagging operation means the mechanical process by which bags are filled with nonmetallic minerals.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capacity means the cumulative rated capacity of all initial crushers that are part of the plant.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more affected facilities to a control device.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a nonmetallic mineral processing plant.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

Crush or *Crushing* means to reduce the size of nonmetallic mineral material by means of physical impaction of the crusher or grinding mill upon the material.

Crusher means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: Jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

Enclosed truck or railcar loading station means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

Fixed plant means any nonmetallic mineral processing plant at which the processing equipment specified in § 60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Grinding mill means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: Hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

Initial crusher means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

(1) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

(2) Sand and Gravel.

(3) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.

(4) Rock Salt.

(5) Gypsum (natural or synthetic).

(6) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.

(7) Pumice.

(8) Gilsonite.

(9) Talc and Pyrophyllite.

(10) Boron, including Borax, Kernite, and Colemanite.

(11) Barite.

(12) Fluorospar.

(13) Feldspar.

(14) Diatomite.

(15) Perlite.

(16) Vermiculite.

(17) Mica.

(18) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

Nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in § 60.670 (b) and (c).

Portable plant means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

Production line means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.

Saturated material means, for purposes of this subpart, mineral material with sufficient surface moisture such that particulate matter emissions are not generated from processing of the material through screening operations, bucket elevators and belt conveyors. Material that is wetted solely by wet suppression systems is not considered to be “saturated” for purposes of this definition.

Screening operation means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens). Grizzly feeders associated with truck dumping and static (non-moving) grizzlies used anywhere in the nonmetallic mineral processing plant are not considered to be screening operations.

Seasonal shut down means shut down of an affected facility for a period of at least 45 consecutive days due to weather or seasonal market conditions.

Size means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

Stack emission means the particulate matter that is released to the atmosphere from a capture system.

Storage bin means a facility for storage (including surge bins) of nonmetallic minerals prior to further processing or loading.

Transfer point means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: Trucks, front end loaders, skip hoists, and railcars.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

Wet material processing operation(s) means any of the following:

(1) Wet screening operations (as defined in this section) and subsequent screening operations, bucket elevators and belt conveyors in the production line that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line; or

(2) Screening operations, bucket elevators and belt conveyors in the production line downstream of wet mining operations (as defined in this section) that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line.

Wet mining operation means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

Wet screening operation means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

§ 60.672 Standard for particulate matter (PM).

(a) Affected facilities must meet the stack emission limits and compliance requirements in Table 2 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under § 60.8. The requirements in Table 2 of this subpart apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.

(b) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under § 60.11. The requirements in Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

(c) [Reserved]

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

(e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

(1) Fugitive emissions from the building openings (except for vents as defined in § 60.671) must not exceed 7 percent opacity; and

(2) Vents (as defined in § 60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of this subpart.

(f) Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of this subpart but must meet the applicable stack opacity limit and compliance requirements in Table 2 of this subpart. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

§ 60.673 Reconstruction.

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital cost that would be required to construct a comparable new facility” under § 60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.

(b) Under § 60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

§ 60.674 Monitoring of operations.

(a) The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

(1) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±250 pascals ±1 inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(2) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under § 60.676(b).

(1) If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:

(i) The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and § 60.676(b), and

(ii) The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under § 60.11 of this part and § 60.675 of this subpart.

(2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under § 60.676(b) must specify the control mechanism being used instead of the water sprays.

(c) Except as specified in paragraph (d) or (e) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A-7). The Method 22 (40 CFR part 60, Appendix A-7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, Appendix A-7) test, including the date and any corrective actions taken, in the logbook required under § 60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to § 60.675(b) simultaneously with a Method 22 (40 CFR part 60, Appendix A-7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of this subpart. The revised visible emissions success level must be incorporated into the permit for the affected facility.

(d) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to paragraphs (d)(1) through (3) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (d)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.* , using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (d)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (d)(1)(vi) of this section.

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (d)(2) of this section.

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator of the affected facility must develop and submit to the Administrator or delegated authority for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (d)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (d)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (d)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 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.

(e) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility that is subject to the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) may follow the continuous compliance requirements in row 1 items (i) through (iii) of Table 6 to Subpart AAAAA of 40 CFR part 63.

§ 60.675 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendices A-1 through A-7 of this part or other methods and procedures as

specified in this section, except as provided in § 60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the PM standards in § 60.672(a) as follows:

(1) Except as specified in paragraphs (e)(3) and (4) of this section, Method 5 of Appendix A-3 of this part or Method 17 of Appendix A-6 of this part shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, Appendix A-3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

(2) Method 9 of Appendix A-4 of this part and the procedures in § 60.11 shall be used to determine opacity.

(c)(1) In determining compliance with the particulate matter standards in § 60.672(b) or § 60.672(e)(1), the owner or operator shall use Method 9 of Appendix A-4 of this part and the procedures in § 60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (*e.g.,* road dust). The required observer position relative to the sun (Method 9 of Appendix A-4 of this part, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2)(i) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under § 60.672(f) of this subpart, using Method 9 (40 CFR part 60, Appendix A-4), the duration of the Method 9 (40 CFR part 60, Appendix A-4) observations shall be 1 hour (ten 6-minute averages).

(ii) The duration of the Method 9 (40 CFR part 60, Appendix A-4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.

(3) When determining compliance with the fugitive emissions standard for any affected facility described under § 60.672(b) or § 60.672(e)(1) of this subpart, the duration of the Method 9 (40 CFR part 60, Appendix A-4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.

(d) To demonstrate compliance with the fugitive emission limits for buildings specified in § 60.672(e)(1), the owner or operator must complete the testing specified in paragraph (d)(1) and (2) of this section. Performance tests must be conducted while all affected facilities inside the building are operating.

(1) If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR part 60, Appendix A-4) performance test according to this section and § 60.11.

(2) If the building encloses only affected facilities that commenced construction, modification, or reconstruction before April 22, 2008, and the owner or operator has previously conducted an initial Method 22 (40 CFR part 60, Appendix A-7) performance test showing zero visible emissions, then the owner or operator has demonstrated compliance with the opacity limit in § 60.672(e)(1). If the owner or operator has not conducted an initial performance test for the building before April 22, 2008, then the owner or operator must conduct an initial Method 9 (40 CFR part 60, Appendix A-4) performance test according to this section and § 60.11 to show compliance with the opacity limit in § 60.672(e)(1).

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

(2) A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:

(i) No more than three emission points may be read concurrently.

(ii) All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.

(3) Method 5I of Appendix A-3 of this part may be used to determine the PM concentration as an alternative to the methods specified in paragraph (b)(1) of this section. Method 5I (40 CFR part 60, Appendix A-3) may be useful for affected facilities that operate for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.

(4) In some cases, velocities of exhaust gases from building vents may be too low to measure accurately with the type S pitot tube specified in EPA Method 2 of Appendix A-1 of this part [*i.e.,* velocity head <1.3 mm H_2O (0.05 in. H_2O)] and referred to in EPA Method 5 of Appendix A-3 of this part. For these conditions, the owner or operator may determine the average gas flow rate produced by the power fans (*e.g.,* from vendor-supplied fan curves) to the building vent. The owner or operator may calculate the average gas velocity at the building vent measurement site using Equation 1 of this section and use this average velocity in determining and maintaining isokinetic sampling rates.

$$v_e = \frac{Q_f}{A_e} \qquad \text{(Eq. 1)}$$

Where:

V_e = average building vent velocity (feet per minute);

Q_f = average fan flow rate (cubic feet per minute); and

A_e = area of building vent and measurement location (square feet).

(f) To comply with § 60.676(d), the owner or operator shall record the measurements as required in § 60.676(c) using the monitoring devices in § 60.674 (a)(1) and (2) during each particulate matter run and shall determine the averages.

(g) For performance tests involving only Method 9 (40 CFR part 60 Appendix A-4) testing, the owner or operator may reduce the 30-day advance notification of performance test in § 60.7(a)(6) and 60.8(d) to a 7-day advance notification.

(h) [Reserved]

(i) If the initial performance test date for an affected facility falls during a seasonal shut down (as defined in § 60.671 of this subpart) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

§ 60.676 Reporting and recordkeeping.

(a) Each owner or operator seeking to comply with § 60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.

(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and

(ii) The rated capacity in tons per hour of the replacement equipment.

(2) For a screening operation:

(i) The total surface area of the top screen of the existing screening operation being replaced and

(ii) The total surface area of the top screen of the replacement screening operation.

(3) For a conveyor belt:

(i) The width of the existing belt being replaced and

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

(i) The rated capacity in megagrams or tons of the existing storage bin being replaced and

(ii) The rated capacity in megagrams or tons of replacement storage bins.

(b)(1) Owners or operators of affected facilities (as defined in §§ 60.670 and 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under § 60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.

(2) For each bag leak detection system installed and operated according to § 60.674(d), the owner or operator must keep the records specified in paragraphs (b)(2)(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; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

(3) The owner or operator of each affected facility demonstrating compliance according to § 60.674(e) by following the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63,

subpart AAAAA) must maintain records of visible emissions observations required by § 63.7132(a)(3) and (b) of 40 CFR part 63, subpart AAAAA.

(c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.

(d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss and liquid flow rate decrease by more than 30 percent from the average determined during the most recent performance test.

(e) The reports required under paragraph (d) of this section shall be postmarked within 30 days following end of the second and fourth calendar quarters.

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in § 60.672 of this subpart, including reports of opacity observations made using Method 9 (40 CFR part 60, Appendix A-4) to demonstrate compliance with § 60.672(b), (e) and (f).

(g) The owner or operator of any wet material processing operation that processes saturated and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. At the time of such change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in § 60.672(b) and the emission test requirements of § 60.11.

(h) The subpart A requirement under § 60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.

(j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.

(k) Notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart need only to be sent to the EPA Region or the State which has been delegated authority according to § 60.4(b).

Table 1 to Subpart OOO of Part 60—Exceptions to Applicability of Subpart A to Subpart OOO

Subpart A reference	Applies to subpart OOO	Explanation
60.4, Address	Yes	Except in § 60.4(a) and (b) submittals need not be submitted to both the EPA Region and delegated State authority (§ 60.676(k)).

Subpart A reference	Applies to subpart OOO	Explanation
60.7, Notification and recordkeeping	Yes	Except in (a)(1) notification of the date construction or reconstruction commenced (§ 60.676(h)).
		Also, except in (a)(6) performance tests involving only Method 9 (40 CFR part 60, Appendix A-4) require a 7-day advance notification instead of 30 days (§ 60.675(g)).
60.8, Performance tests	Yes	Except in (d) performance tests involving only Method 9 (40 CFR part 60, Appendix A-4) require a 7-day advance notification instead of 30 days (§ 60.675(g)).
60.11, Compliance with standards and maintenance requirements	Yes	Except in (b) under certain conditions (§§ 60.675(c)), Method 9 (40 CFR part 60, Appendix A-4) observation is reduced from 3 hours to 30 minutes for fugitive emissions.
60.18, General control device	No	Flares will not be used to comply with the emission limits.

Table 2 to Subpart OOO of Part 60—Stack Emission Limits for Affected Facilities With Capture Systems

For * * *	The owner or operator must meet a PM limit of * * *	And the owner or operator must meet an opacity limit of * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§ 60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	0.05 g/dscm (0.022 gr/dscf) [a]	7 percent for dry control devices [b]	An initial performance test according to § 60.8 of this part and § 60.675 of this subpart; and Monitoring of wet scrubber parameters according to § 60.674(a) and § 60.676(c), (d), and (e).
Affected facilities (as defined in §§ 60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	0.032 g/dscm (0.014 gr/dscf) [a]	Not applicable (except for individual enclosed storage bins) 7 percent for dry control devices on individual enclosed storage bins	An initial performance test according to § 60.8 of this part and § 60.675 of this subpart; and Monitoring of wet scrubber parameters according to § 60.674(a) and § 60.676(c), (d), and (e); and
			Monitoring of baghouses according to § 60.674(c), (d), or (e) and § 60.676(b).

[a] Exceptions to the PM limit apply for individual enclosed storage bins and other equipment. See § 60.672(d) through (f).

[b] The stack opacity limit and associated opacity testing requirements do not apply for affected facilities using wet scrubbers.

Table 3 to Subpart OOO of Part 60—Fugitive Emission Limits

For * * *	The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in §§ 60.670 and 60.671) * * *	The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§ 60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	10 percent opacity	15 percent opacity	An initial performance test according to § 60.11 of this part and § 60.675 of this subpart.
Affected facilities (as defined in §§ 60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	7 percent opacity	12 percent opacity	An initial performance test according to § 60.11 of this part and § 60.675 of this subpart; and Periodic inspections of water sprays according to § 60.674(b) and § 60.676(b); and
			A repeat performance test according to § 60.11 of this part and § 60.675 of this subpart within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays. Affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in § 60.674(b) and § 60.676(b) are exempt from this 5-year repeat testing requirement.

Attachment B

Electronic Code of Federal Regulations

Title 40: Protection of Environment

Part 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

SOURCE: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in § 63.6675, which includes operating according to the provisions specified in § 63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (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 that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(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.

(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 that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(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;

(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.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010; 78 FR 6700, Jan. 30, 2013]

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (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, operating limitations and other requirements 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, operating limitations, and other requirements 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, operating limitations, and other requirements no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your 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 before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your 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 after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in § 63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 78 FR 6701, Jan. 30, 2013]

Emission and Operating Limitations

§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

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.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB 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 emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed 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 emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more 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 and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§ 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?

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. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6602 What emission limitations and other requirements 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 and other requirements 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.

[78 FR 6701, Jan. 30, 2013]

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

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.

(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 that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. 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.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system

requirements in § 63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in § 63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart IIII instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in § 63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in § 63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in § 63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6701, Jan. 30, 2013]

§ 63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) 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.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in § 63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either § 63.6603(b)(1) or § 63.6603(b)(2), or are on offshore vessels that meet § 63.6603(c) are exempt from the requirements of this section.

[78 FR 6702, Jan. 30, 2013]

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(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. 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 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.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions in § 63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§ 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?

If you own or operate a new or reconstructed 4SLB 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, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§ 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.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions in § 63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (Eq.\ 1)$$

Where:

C_i = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

C_o = concentration of CO, THC, or formaldehyde at the control device outlet, and

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2 concentration is measured in lieu of oxygen concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209\ F_d}{F_c} \quad (Eq.\ 2)$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu)

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO2} = \frac{5.9}{F_o} \quad (Eq. 3)$$

Where:

X_{CO2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 —15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq. 4)$$

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O_2.

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{CO2} = CO_2 correction factor, percent.

%CO_2 = Measured CO_2 concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

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

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O_2 or CO_2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in § 63.8 and according to the applicable performance specifications 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.

(3) As specified in § 63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.

(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 (6) 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)(ii) 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.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB 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, you must install a non-resettable hour meter prior to the startup of the engine.

(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 stationary RICE located at an area 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.

(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.

(f) 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 or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(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 (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 that meet either § 63.6603(b)(1) or § 63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet § 63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(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 business 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 business 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 business 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 business 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.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

Continuous Compliance Requirements

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

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(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.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate 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 (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional

transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. 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 calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, 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.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(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.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major 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.

(b) As specified in § 63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in § 63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with § 63.6590(b), your notification should include the information in § 63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in § 63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to § 63.10(d)(2).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in § 63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in § 63.6603(d) and identifying the state or local regulation that the engine is subject to.

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in § 63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in § 63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

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

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

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction 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 § 63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in § 63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

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

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in § 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in § 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in § 63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in § 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in § 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in § 63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in § 63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in § 63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(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) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in § 63.6640(f)(2)(ii) or (iii) or § 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(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.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§ 63.6665 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. If you own or operate 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 (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is 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 (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether 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:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in § 63.6600 under § 63.6(g).

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in § 63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see § 63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101-549, 104 Stat. 2399).

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.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

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

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by § 63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2 .

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. 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.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. 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.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in § 63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 63.6640(f)(2)(ii) or (iii) and § 63.6640(f)(4)(i) or (ii).

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

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.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2 .

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in § 63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X , CO, and volatile organic compounds (VOC) into CO_2 , nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in § 63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to § 63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to § 63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure $C_3 H_8$.

Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

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.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum

Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

Table 1 a 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:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	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.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1 b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major 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:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions 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 existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions 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;	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.[1]
2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions 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	Comply with any operating limitations approved by the Administrator.
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions 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.	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

Table 2 a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 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 for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2until June 15, 2007	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.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2 b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI 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 CI Stationary RICE >500 HP

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 CI 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; and existing CI stationary RICE >500 HP:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde 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. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce 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 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]
3. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.
New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Table 2 c 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, and replace as necessary; 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]
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, and replace as necessary; 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.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
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, and replace as necessary; 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, and replace as necessary;	
	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, and replace as necessary;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
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 stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	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) or (j) 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.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

Table 2 d 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] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	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.
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 replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
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 replace as necessary; 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 replace as necessary; 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 replace as necessary; 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 remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	
10. 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]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	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 replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	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) or (j) 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.

[78 FR 6709, Jan. 30, 2013]

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 >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours 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.

[78 FR 6711, Jan. 30, 2013]

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_2at 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 D6522-00 (Reapproved 2005).[a c]	(a) Measurements to determine O_2must 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) ASTM D6522-00 (Reapproved 2005) [a b c]or Method 10 of 40 CFR part 60, appendix A	(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_2at 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 D6522-00 (Reapproved 2005).[a]	(a) measurements to determine O_2concentration must be made at the same time as the measurements for formaldehyde or THC 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]	(a) measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, 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,[a]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. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A	(a) THC 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_2concentration 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 (Reapproved 2005).[a]	(a) measurements to determine O_2concentration must be made at the same time and location as the measurements for formaldehyde or CO 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]	(a) measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO 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,[a]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] [c]Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.[a]	(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 or longer runs.

[a] Incorporated by reference, see 40 CFR 63.14. You may also obtain copies from University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b] You may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.

[c] ASTM-D6522-00 (2005) may be used to test both CI and SI stationary RICE.

[78 FR 6711, Jan. 30, 2013]

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

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, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	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, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	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, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	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, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	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.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
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, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2or CO_2at 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, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2or CO_2at 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
		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	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, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; 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	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 or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		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. 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 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. 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.
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 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. 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.
11. 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 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.
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. 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.
13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in § 63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2;

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.
14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. You have conducted an initial compliance demonstration as specified in § 63.6630(e) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

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.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
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, and existing non-emergency stationary CI RICE >500 HP	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
		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.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
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, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.[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.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
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 stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, 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, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE	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.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	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	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	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

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	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	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	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
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in § 63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2; and either ii. Collecting the catalyst inlet temperature data according to § 63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.
15. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. Conducting annual compliance demonstrations as specified in § 63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2,or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to § 63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

[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.

[78 FR 6715, Jan. 30, 2013]

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; 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	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.
		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	i. Semiannually according to the requirements in § 63.6650(b).
		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).
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	i. Annually, according to the requirements in § 63.6650.
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.
3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Compliance report	a. The results of the annual compliance demonstration, if conducted during the reporting period.	i. Semiannually according to the requirements in § 63.6650(b)(1)-(5).

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in § 63.6640(f)(4)(ii)	Report	a. The information in § 63.6650(h)(1)	i. annually according to the requirements in § 63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in § 63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.1	General applicability of the General Provisions	Yes.	
§ 63.2	Definitions	Yes	Additional terms defined in § 63.6675.
§ 63.3	Units and abbreviations	Yes.	
§ 63.4	Prohibited activities and circumvention	Yes.	
§ 63.5	Construction and reconstruction	Yes.	
§ 63.6(a)	Applicability	Yes.	
§ 63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§ 63.6(b)(5)	Notification	Yes.	
§ 63.6(b)(6)	[Reserved]		
§ 63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§ 63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§ 63.6(c)(3)-(4)	[Reserved]		
§ 63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§ 63.6(d)	[Reserved]		
§ 63.6(e)	Operation and maintenance	No.	
§ 63.6(f)(1)	Applicability of standards	No.	
§ 63.6(f)(2)	Methods for determining compliance	Yes.	
§ 63.6(f)(3)	Finding of compliance	Yes.	
§ 63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§ 63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§ 63.6(i)	Compliance extension procedures and criteria	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.6(j)	Presidential compliance exemption	Yes.	
§ 63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§ 63.6610, 63.6611, and 63.6612.
§ 63.7(a)(3)	CAA section 114 authority	Yes.	
§ 63.7(b)(1)	Notification of performance test	Yes	Except that § 63.7(b)(1) only applies as specified in § 63.6645.
§ 63.7(b)(2)	Notification of rescheduling	Yes	Except that § 63.7(b)(2) only applies as specified in § 63.6645.
§ 63.7(c)	Quality assurance/test plan	Yes	Except that § 63.7(c) only applies as specified in § 63.6645.
§ 63.7(d)	Testing facilities	Yes.	
§ 63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at § 63.6620.
§ 63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at § 63.6620.
§ 63.7(e)(3)	Test run duration	Yes.	
§ 63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§ 63.7(f)	Alternative test method provisions	Yes.	
§ 63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§ 63.7(h)	Waiver of tests	Yes.	
§ 63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at § 63.6625.
§ 63.8(a)(2)	Performance specifications	Yes.	
§ 63.8(a)(3)	[Reserved]		
§ 63.8(a)(4)	Monitoring for control devices	No.	
§ 63.8(b)(1)	Monitoring	Yes.	
§ 63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes.	
§ 63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§ 63.8(c)(1)(i)	Routine and predictable SSM	No	
§ 63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§ 63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§ 63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§ 63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§ 63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§ 63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.8(d)	CMS quality control	Yes.	
§ 63.8(e)	CMS performance evaluation	Yes	Except for § 63.8(e)(5)(ii), which applies to COMS.
		Except that § 63.8(e) only applies as specified in § 63.6645.	
§ 63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that § 63.8(f)(4) only applies as specified in § 63.6645.
§ 63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that § 63.8(f)(6) only applies as specified in § 63.6645.
§ 63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§ 63.6635 and 63.6640.
§ 63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§ 63.9(b)(1)-(5)	Initial notifications	Yes	Except that § 63.9(b)(3) is reserved.
		Except that § 63.9(b) only applies as specified in § 63.6645.	
§ 63.9(c)	Request for compliance extension	Yes	Except that § 63.9(c) only applies as specified in § 63.6645.
§ 63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that § 63.9(d) only applies as specified in § 63.6645.
§ 63.9(e)	Notification of performance test	Yes	Except that § 63.9(e) only applies as specified in § 63.6645.
§ 63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§ 63.9(g)(1)	Notification of performance evaluation	Yes	Except that § 63.9(g) only applies as specified in § 63.6645.
§ 63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§ 63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that § 63.9(g) only applies as specified in § 63.6645.	
§ 63.9(h)(1)-(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. § 63.9(h)(4) is reserved.
			Except that § 63.9(h) only applies as specified in § 63.6645.
§ 63.9(i)	Adjustment of submittal deadlines	Yes.	
§ 63.9(j)	Change in previous information	Yes.	
§ 63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§ 63.10(b)(2)(i)-(v)	Records related to SSM	No.	
§ 63.10(b)(2)(vi)-(xi)	Records	Yes.	
§ 63.10(b)(2)(xii)	Record when under waiver	Yes.	
§ 63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§ 63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§ 63.10(b)(3)	Records of applicability determination	Yes.	
§ 63.10(c)	Additional records for sources using CEMS	Yes	Except that § 63.10(c)(2)-(4) and (9) are reserved.
§ 63.10(d)(1)	General reporting requirements	Yes.	
§ 63.10(d)(2)	Report of performance test results	Yes.	
§ 63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§ 63.10(d)(4)	Progress reports	Yes.	
§ 63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§ 63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§ 63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§ 63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that § 63.10(e)(3)(i) (C) is reserved.
§ 63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§ 63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§ 63.11	Flares	No.	
§ 63.12	State authority and delegations	Yes.	
§ 63.13	Addresses	Yes.	
§ 63.14	Incorporation by reference	Yes.	
§ 63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]

Appendix A—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 Scope and Application. What is this Protocol?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O_2) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O_2).

Analyte	CAS No.	Sensitivity
Carbon monoxide (CO)	630-08-0	Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.
Oxygen (O_2)	*7782-44-7*	

1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O_2 , or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 Summary of Protocol

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O_2 gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 Definitions

3.1 Measurement System. The total equipment required for the measurement of CO and O_2 concentrations. The measurement system consists of the following major subsystems:

3.1.1 Data Recorder. A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 Electrochemical (EC) Cell. A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 Interference Gas Scrubber. A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 Moisture Removal System. Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 Sample Interface. The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 Nominal Range. The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 Calibration Gas. A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 Zero Calibration Error. The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 Up-Scale Calibration Error. The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 Interference Check. A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 Repeatability Check. A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 Sample Flow Rate. The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 Sampling Run. A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O_2 and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 Sampling Day. A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check. The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

3.12 Performance-Established Configuration. The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 Interferences.

When present in sufficient concentrations, NO and NO_2 are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ

and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 Safety. [Reserved]

6.0 Equipment and Supplies.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 Sample Probe. A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 Sample Line. Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 Calibration Assembly (optional). A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 Particulate Filter (optional). Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 Sample Pump. A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 Sample Flow Rate Monitoring. An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 Sample Gas Manifold (optional). A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 EC cell. A device containing one or more EC cells to determine the CO and O_2 concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 Data Recorder. A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O_2 ; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

6.2.12 Interference Gas Filter or Scrubber. A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

7.1 Calibration Gases. CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O_2. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ± 5 percent of the label value. Dry ambient air (20.9 percent O_2) is acceptable for calibration of the O_2 cell. If needed, any lower percentage O_2 calibration gas must be a mixture of O_2 in nitrogen.

7.1.1 Up-Scale CO Calibration Gas Concentration. Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 Up-Scale O_2 Calibration Gas Concentration.

Select an O_2 gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O_2 . When the average exhaust gas O_2 readings are above 6 percent, you may use dry ambient air (20.9 percent O_2) for the up-scale O_2 calibration gas.

7.1.3 Zero Gas. Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO_2).

8.0 Sample Collection and Analysis

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the “sample conditioning phase” once per minute until constant readings are obtained. Then begin the “measurement data phase” and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the “measurement data phase” readings to calculate the average stack gas CO and O_2 concentrations.

8.3 EC Cell Rate. Maintain the EC cell sample flow rate so that it does not vary by more than ± 10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ± 3 percent, as instructed by the EC cell manufacturer.

9.0 Quality Control (Reserved)

10.0 Calibration and Standardization

10.1 Pre-Sampling Calibration. Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an

EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

10.1.1 Zero Calibration. For both the O_2 and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

10.1.2 Zero Calibration Tolerance. For each zero gas introduction, the zero level output must be less than or equal to ± 3 percent of the up-scale gas value or ± 1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ± 0.3 percent O_2 for the O_2 channel.

10.1.3 Up-Scale Calibration. Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this “sample conditioning phase” once per minute until readings are constant for at least two minutes. Then begin the “measurement data phase” and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

10.1.4 Up-Scale Calibration Error. The mean of the difference of the “measurement data phase” readings from the reported standard gas value must be less than or equal to ± 5 percent or ± 1 ppm for CO or ± 0.5 percent O_2 , whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single “measurement data phase” reading must be less than or equal to ± 2 percent or ± 1 ppm for CO or ± 0.5 percent O_2 , whichever is less restrictive, respectively.

10.2 Post-Sampling Calibration Check. Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O_2 concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the “measurement data phase”.

13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

13.1 Measurement Data Phase Performance Check. Calculate the mean of the readings from the “measurement data phase”. The maximum allowable deviation from the mean for each of the individual readings is ± 2 percent, or ± 1 ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than ± 2 percent *or ± 1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed*).

13.2 Interference Check. Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO_2 gas standards that are generally recognized as representative of diesel-fueled engine NO and NO_2 emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 Interference Response. The combined NO and NO_2 interference response should be less than or equal to ± 5 percent of the up-scale CO calibration gas concentration.

13.3 Repeatability Check. Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

13.3.1 Repeatability Check Procedure. Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

13.3.2 Repeatability Check Calculations. Determine the highest and lowest average “measurement data phase” CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ± 3 percent or ± 1 ppm of the up-scale gas value, whichever is less restrictive.

14.0 Pollution Prevention (Reserved)

15.0 Waste Management (Reserved)

16.0 Alternative Procedures (Reserved)

17.0 References

(1) “Development of an Electrochemical Cell Emission Analyzer Test Protocol”, Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.

(2) “Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers”, EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.

(3) “ICAC Test Protocol for Periodic Monitoring”, EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.

(4) “Code of Federal Regulations”, Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

Table 1: Appendix A—Sampling Run Data.

Facility_____ Engine I.D._____ Date_____											
Run Type:	(_)				(_)			(_)			(_)
(X)	Pre-Sample Calibration				Stack Gas Sample			Post-Sample Cal. Check			Repeatability Check
Run #	1	1	2	2	3	3	4	4	Time	Scrub. OK	Flow- Rate

Gas	O_2	CO	O_2	CO	O_2	CO	O_2	CO			
Sample Cond. Phase											
″											
″											
″											
″											
Measurement Data Phase											
″											
″											
″											
″											
″											
″											
″											
″											
″											
″											
Mean											
Refresh Phase											
″											
″											
″											
″											

[78 FR 6721, Jan. 30, 2013]

Attachment C

Electronic Code of Federal Regulations

Title 40: Protection of Environment

40 CFR 60, Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32742, June 13, 2007, unless otherwise noted.

§ 60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).

(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:

(1) Coal-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the particulate matter (PM) and nitrogen oxides (NO_X) standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; § 60.40) are subject to the PM and NO_X standards under this subpart and to the sulfur dioxide (SO_2) standards under subpart D (§ 60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the NO_X standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; § 60.40) are also subject to the NO_X standards under this subpart and the PM and SO_2 standards under subpart D (§ 60.42 and § 60.43).

(c) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NO_X standards under this subpart and the SO_2 standards under subpart J or subpart Ja of this part, as applicable.

(d) Affected facilities that also meet the applicability requirements under subpart E (Standards of performance for incinerators; § 60.50) are subject to the NO_X and PM standards under this subpart.

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; § 60.40Da) are not subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing total reduced sulfur (TRS) as defined under § 60.281 is not considered a modification under § 60.14 and the steam generating unit is not subject to this subpart.

(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, the following authorities shall be retained by the Administrator and not transferred to a State.

(1) Section 60.44b(f).

(2) Section 60.44b(g).

(3) Section 60.49b(a)(4).

(h) Any affected facility that meets the applicability requirements and is subject to subpart Ea, subpart Eb, subpart AAAA, or subpart CCCC of this part is not subject to this subpart.

(i) Affected facilities (*i.e.,* heat recovery steam generators) that are associated with stationary combustion turbines and that meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other affected facilities (*i.e.* heat recovery steam generators with duct burners) that are capable of combusting more than 29 MW (100 MMBtu/h) heat input of fossil fuel. If the affected facility (*i.e.* heat recovery steam generator) is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(j) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, § 60.40).

(k) Any affected facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart Cb or subpart BBBB of this part is not covered by this subpart.

(l) Affected facilities that also meet the applicability requirements under subpart BB of this part (Standards of Performance for Kraft Pulp Mills) are subject to the SO_2 and NO_X standards under this subpart and the PM standards under subpart BB.

(m) Temporary boilers are not subject to this subpart.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009; 77 FR 9459, Feb. 16, 2012]

§ 60.41b Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from the fuels listed in § 60.42b(a), § 60.43b(a), or § 60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

Byproduct/waste means any liquid or gaseous substance produced at chemical manufacturing plants, petroleum refineries, or pulp and paper mills (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide (CO_2) levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purpose of this subpart.

Chemical manufacturing plants mean industrial plants that are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, coke oven gas, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any byproduct of coal mining or coal cleaning operations with an ash content greater than 50 percent, by weight, and a heating value less than 13,900 kJ/kg (6,000 Btu/lb) on a dry basis.

Cogeneration , also known as combined heat and power, means a facility that simultaneously produces both electric (or mechanical) and useful thermal energy from the same primary energy source.

Coke oven gas means the volatile constituents generated in the gaseous exhaust during the carbonization of bituminous coal to form coke.

Combined cycle system means a system in which a separate source, such as a gas turbine, internal combustion engine, kiln, etc., provides exhaust gas to a steam generating unit.

Conventional technology means wet flue gas desulfurization (FGD) technology, dry FGD technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17), diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see § 60.17), kerosine, as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see § 60.17), biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see § 60.17), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see § 60.17).

Dry flue gas desulfurization technology means a SO_2 control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline slurries or solutions used in dry flue gas desulfurization technology include but are not limited to lime and sodium.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO_2 control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under § 60.49b(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means combustion of fuel in a bed or series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials are forced upward by the flow of combustion air and the gaseous products of combustion.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Full capacity means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.

Gaseous fuel means any fuel that is a gas at ISO conditions. This includes, but is not limited to, natural gas and gasified coal (including coke oven gas).

Gross output means the gross useful work performed by the steam generated. For units generating only electricity, the gross useful work performed is the gross electrical output from the turbine/generator set. For cogeneration units,

the gross useful work performed is the gross electrical or mechanical output plus 75 percent of the useful thermal output measured relative to ISO conditions that is not used to generate additional electrical or mechanical output or to enhance the performance of the unit (*i.e.* , steam delivered to an industrial process).

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

Heat release rate means the steam generating unit design heat input capacity (in MW or Btu/hr) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.

Heat transfer medium means any material that is used to transfer heat from one point to another point.

High heat release rate means a heat release rate greater than 730,000 J/sec-m^3 (70,000 Btu/hr-ft^3).

ISO Conditions means a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals.

Lignite means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17).

Low heat release rate means a heat release rate of 730,000 J/sec-m^3 (70,000 Btu/hr-ft^3) or less.

Mass-feed stoker steam generating unit means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

Maximum heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel on a steady state basis, as determined by the physical design and characteristics of the steam generating unit.

Municipal-type solid waste means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see § 60.17); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil.

Petroleum refinery means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.

Potential sulfur dioxide emission rate means the theoretical SO_2 emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems. For gasified coal or oil that is desulfurized prior to combustion, the *Potential sulfur dioxide emission rate* is the theoretical SO_2 emissions (ng/J or lb/MMBtu heat input) that would result from combusting fuel in a cleaned state without using any post combustion emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Pulp and paper mills means industrial plants that are classified by the Department of Commerce under North American Industry Classification System (NAICS) Code 322 or Standard Industrial Classification (SIC) Code 26.

Pulverized coal-fired steam generating unit means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units. Residual oil means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17).

Spreader stoker steam generating unit means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

Steam generating unit means a device that combusts any fuel or byproduct/waste and produces steam or heats water or heats any heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Temporary boiler means any gaseous or liquid fuel-fired steam generating unit that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

Very low sulfur oil means for units constructed, reconstructed, or modified on or before February 28, 2005, oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO_2 emission control, has a SO_2 emission rate equal to or less than 215 ng/J (0.5 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005 and not located in a noncontinental area, *very low sulfur oil* means oil that contains no more than 0.30 weight percent sulfur or that, when combusted without SO_2 emission control, has a SO_2 emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005 and located in a noncontinental area, *very low sulfur oil* means oil that contains no more than 0.5

weight percent sulfur or that, when combusted without SO_2 emission control, has a SO_2 emission rate equal to or less than 215 ng/J (0.50 lb/MMBtu) heat input.

Wet flue gas desulfurization technology means a SO_2 control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO_2 .

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including, but not limited to, sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009; 77 FR 9459, Feb. 16, 2012]

§ 60.42b Standard for sulfur dioxide (SO2).

(a) Except as provided in paragraphs (b), (c), (d), or (j) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction) and the emission limit determined according to the following formula:

$$E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$$

Where:

E_s = SO_2 emission limit, in ng/J or lb/MMBtu heat input;

K_a = 520 ng/J (or 1.2 lb/MMBtu);

K_b = 340 ng/J (or 0.80 lb/MMBtu);

H_a = Heat input from the combustion of coal, in J (MMBtu); and

H_b = Heat input from the combustion of oil, in J (MMBtu).

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(b) On and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal refuse alone in a fluidized bed combustion steam generating unit shall cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) or 20 percent (0.20) of the potential SO_2 emission rate (80 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. If coal or oil is fired with coal refuse, the affected facility is subject to paragraph (a) or (d) of this section, as applicable. For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat

input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(c) On and after the date on which the performance test is completed or is required to be completed under § 60.8, whichever comes first, no owner or operator of an affected facility that combusts coal or oil, either alone or in combination with any other fuel, and that uses an emerging technology for the control of SO_2 emissions, shall cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 50 percent of the potential SO_2 emission rate (50 percent reduction) and that contain SO_2 in excess of the emission limit determined according to the following formula:

$$E_s = \frac{(K_c H_c + K_d H_d)}{(H_c + H_d)}$$

Where:

E_s = SO2 emission limit, in ng/J or lb/MM Btu heat input;

K_c = 260 ng/J (or 0.60 lb/MMBtu);

K_d = 170 ng/J (or 0.40 lb/MMBtu);

H_c = Heat input from the combustion of coal, in J (MMBtu); and

H_d = Heat input from the combustion of oil, in J (MMBtu).

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels, or from the heat input derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(d) On and after the date on which the performance test is completed or required to be completed under § 60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 and listed in paragraphs (d)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/MMBtu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under paragraphs (d)(1), (2), (3) or (4) of this section. For facilities complying with paragraphs (d)(1), (2), or (3) of this section, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less;

(2) Affected facilities located in a noncontinental area; or

(3) Affected facilities combusting coal or oil, alone or in combination with any fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from the exhaust gases entering the duct burner; or

(4) The affected facility burns coke oven gas alone or in combination with natural gas or very low sulfur distillate oil.

(e) Except as provided in paragraph (f) of this section, compliance with the emission limits, fuel oil sulfur limits, and/or percent reduction requirements under this section are determined on a 30-day rolling average basis.

(f) Except as provided in paragraph (j)(2) of this section, compliance with the emission limits or fuel oil sulfur limits under this section is determined on a 24-hour average basis for affected facilities that (1) have a federally enforceable permit limiting the annual capacity factor for oil to 10 percent or less, (2) combust only very low sulfur oil, and (3) do not combust any other fuel.

(g) Except as provided in paragraph (i) of this section and § 60.45b(a), the SO_2 emission limits and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(h) Reductions in the potential SO_2 emission rate through fuel pretreatment are not credited toward the percent reduction requirement under paragraph (c) of this section unless:

(1) Fuel pretreatment results in a 50 percent or greater reduction in potential SO_2 emissions and

(2) Emissions from the pretreated fuel (without combustion or post-combustion SO_2 control) are equal to or less than the emission limits specified in paragraph (c) of this section.

(i) An affected facility subject to paragraph (a), (b), or (c) of this section may combust very low sulfur oil or natural gas when the SO_2 control system is not being operated because of malfunction or maintenance of the SO_2 control system.

(j) Percent reduction requirements are not applicable to affected facilities combusting only very low sulfur oil. The owner or operator of an affected facility combusting very low sulfur oil shall demonstrate that the oil meets the definition of very low sulfur oil by: (1) Following the performance testing procedures as described in § 60.45b(c) or § 60.45b(d), and following the monitoring procedures as described in § 60.47b(a) or § 60.47b(b) to determine SO_2 emission rate or fuel oil sulfur content; or (2) maintaining fuel records as described in § 60.49b(r).

(k)(1) Except as provided in paragraphs (k)(2), (k)(3), and (k)(4) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, natural gas, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential SO_2 emission rate (92 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. For facilities complying with the percent reduction standard and paragraph (k)(3) of this section, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in paragraph (k) of this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(2) Units firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO_2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO_2 emissions limit in paragraph (k)(1) of this section.

(3) Units that are located in a noncontinental area and that combust coal, oil, or natural gas shall not discharge any gases that contain SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.50 lb/MMBtu) heat input if the affected facility combusts oil or natural gas.

(4) As an alternative to meeting the requirements under paragraph (k)(1) of this section, modified facilities that combust coal or a mixture of coal with other fuels shall not cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011]

§ 60.43b Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 that combusts coal or combusts mixtures of coal with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input, (i) If the affected facility combusts only coal, or

(ii) If the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels greater than 10 percent (0.10) and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(3) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts coal or coal and other fuels and

(i) Has an annual capacity factor for coal or coal and other fuels of 30 percent (0.30) or less,

(ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for coal or coal and other solid fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, and before November 25, 1986.

(4) An affected facility burning coke oven gas alone or in combination with other fuels not subject to a PM standard under § 60.43b and not using a post-combustion technology (except a wet scrubber) for reducing PM or SO_2 emissions is not subject to the PM limits under § 60.43b(a).

(b) On and after the date on which the performance test is completed or required to be completed under § 60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce SO_2 emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(c) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor greater than 30 percent (0.30) for wood.

(2) 86 ng/J (0.20 lb/MMBtu) heat input if (i) The affected facility has an annual capacity factor of 30 percent (0.30) or less for wood;

(ii) Is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for wood; and

(iii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less.

(d) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts municipal-type solid waste or mixtures of municipal-type solid waste with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input;

(i) If the affected facility combusts only municipal-type solid waste; or

(ii) If the affected facility combusts municipal-type solid waste and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts municipal-type solid waste or municipal-type solid waste and other fuels; and

(i) Has an annual capacity factor for municipal-type solid waste and other fuels of 30 percent (0.30) or less;

(ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less;

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for municipal-type solid waste, or municipal-type solid waste and other fuels; and

(iv) Construction of the affected facility commenced after June 19, 1984, but on or before November 25, 1986.

(e) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal, wood, or municipal-type solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum heat input capacity.

(f) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. An owner or operator of an affected facility that elects to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and is subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less is exempt from the opacity standard specified in this paragraph.

(g) The PM and opacity standards apply at all times, except during periods of startup, shutdown, or malfunction.

(h)(1) Except as provided in paragraphs (h)(2), (h)(3), (h)(4), (h)(5), and (h)(6) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input,

(2) As an alternative to meeting the requirements of paragraph (h)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under § 60.8, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity of 73 MW (250 MMBtu/h) or less shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity greater than 73 MW (250 MMBtu/h) shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 37 ng/J (0.085 lb/MMBtu) heat input.

(5) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, an owner or operator of an affected facility not located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.30 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in § 60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO_2 or PM emissions is not subject to the PM limits in (h)(1) of this section.

(6) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, an owner or operator of an affected facility located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.5 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in § 60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO_2 or PM emissions is not subject to the PM limits in (h)(1) of this section.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009; 77 FR 9459, Feb. 16, 2012]

§ 60.44b Standard for nitrogen oxides (NOX).

(a) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X (expressed as NO_2) in excess of the following emission limits:

Fuel/steam generating unit type	Nitrogen oxide emission limits (expressed as NO_2) heat input	
	ng/J	lb/MMBTu
(1) Natural gas and distillate oil, except (4):		
(i) Low heat release rate	43	0.10
(ii) High heat release rate	86	0.20
(2) Residual oil:		
(i) Low heat release rate	130	0.30
(ii) High heat release rate	170	0.40
(3) Coal:		
(i) Mass-feed stoker	210	0.50
(ii) Spreader stoker and fluidized bed combustion	260	0.60
(iii) Pulverized coal	300	0.70

Fuel/steam generating unit type	Nitrogen oxide emission limits (expressed as NO_2) heat input	
	ng/J	lb/MMBTu
(iv) Lignite, except (v)	260	0.60
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace	340	0.80
(vi) Coal-derived synthetic fuels	210	0.50
(4) Duct burner used in a combined cycle system:		
(i) Natural gas and distillate oil	86	0.20
(ii) Residual oil	170	0.40

(b) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X in excess of a limit determined by the use of the following formula:

$$E_n = \frac{(EL_{go}H_{go}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{go} + H_{ro} + H_c)}$$

Where:

E_n = NO_X emission limit (expressed as NO_2), ng/J (lb/MMBtu);

EL_{go} = Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

H_{go} = Heat input from combustion of natural gas or distillate oil, J (MMBtu);

EL_{ro} = Appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/MMBtu);

H_{ro} = Heat input from combustion of residual oil, J (MMBtu);

EL_c = Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

H_c = Heat input from combustion of coal, J (MMBtu).

(c) Except as provided under paragraph (d) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, natural gas (or any combination of the three), and wood, or any other fuel shall cause to be discharged into the atmosphere any gases that contain NO_X in excess of the emission limit for the coal, oil, natural gas (or any combination of the three), combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section. This standard does not apply to an affected facility that is subject to and in compliance with a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, natural gas (or any combination of the three).

(d) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts natural gas and/or distillate oil with a potential SO_2 emissions rate of 26 ng/J (0.060 lb/MMBtu) or less with wood, municipal-type solid waste, or other solid fuel, except coal, shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X in excess of 130 ng/J (0.30 lb/MMBtu) heat input unless the affected facility has an annual capacity factor for natural gas, distillate oil, or a mixture of these fuels of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas, distillate oil, or a mixture of these fuels.

(e) Except as provided under paragraph (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts only coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere any gases that contain NO_X in excess of the emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a NO_X emission limit that shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as NO_X emissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific NO_X emission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, by conducting a 30-day performance test as provided in § 60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The NO_X emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific NO_X emission limit will be established at the NO_X emission level achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing NO_X emissions. In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO_X limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40 CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility for a waiver from compliance with the NO_X emission limit that applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on NO_X emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the affected facility is able to comply with the NO_X emission limits required by this section. The owner or operator of the affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement preclude compliance with the NO_X emission limits of this section. The NO_X emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, are applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70 for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).) In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO_X limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(h) For purposes of paragraph (i) of this section, the NO_X standards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

(1) Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;

(2) Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and

(3) Are subject to a federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j)(1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 MMBtu/hr) or less, are not subject to the NO_X emission limits under this section.

(l) On and after the date on which the initial performance test is completed or is required to be completed under 60.8, whichever date is first, no owner or operator of an affected facility that commenced construction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain NOx (expressed as NO2) in excess of the following limits:

(1) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts coal, oil, or natural gas (or any combination of the three), alone or with any other fuels. The affected facility is not subject to this limit if it is subject to and in compliance with a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas (or any combination of the three); or

(2) If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input on a 30-day rolling average from the combustion of all fuels, a limit determined by use of the following formula:

$$E_n = \frac{(0.10 \times H_{go}) + (0.20 \times H_r)}{(H_{go} + H_r)}$$

Where:

E_n = NO_X emission limit, (lb/MMBtu);

H_{go} = 30-day heat input from combustion of natural gas or distillate oil; and

H_r = 30-day heat input from combustion of any other fuel.

(3) After February 27, 2006, units where more than 10 percent of total annual output is electrical or mechanical may comply with an optional limit of 270 ng/J (2.1 lb/MWh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of § 60.48Da(i) of subpart Da of this part, and must monitor emissions according to § 60.49Da(c), (k), through (n) of subpart Da of this part.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009; 77 FR 9459, Feb. 16, 2012]

§ 60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The SO_2 emission standards in § 60.42b apply at all times. Facilities burning coke oven gas alone or in combination with any other gaseous fuels or distillate oil are allowed to exceed the limit 30 operating days per calendar year for SO_2 control system maintenance.

(b) In conducting the performance tests required under § 60.8, the owner or operator shall use the methods and procedures in appendix A (including fuel certification and sampling) of this part or the methods and procedures as specified in this section, except as provided in § 60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential SO_2 emission rate (% P_s) and the SO_2 emission rate (E_s) pursuant to § 60.42b following the procedures listed below, except as provided under paragraph (d) and (k) of this section.

(1) The initial performance test shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the SO_2 standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

(2) If only coal, only oil, or a mixture of coal and oil is combusted, the following procedures are used:

(i) The procedures in Method 19 of appendix A-7 of this part are used to determine the hourly SO_2 emission rate (E_{ho}) and the 30-day average emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS of § 60.47b(a) or (b).

(ii) The percent of potential SO_2 emission rate (%P_s) emitted to the atmosphere is computed using the following formula:

$$\%P_s = 100\left(1 - \frac{\%R_g}{100}\right)\left(1 - \frac{\%R_f}{100}\right)$$

Where:

%P_s = Potential SO_2 emission rate, percent;

%R_g = SO_2 removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

%R_f = SO_2 removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(3) If coal or oil is combusted with other fuels, the same procedures required in paragraph (c)(2) of this section are used, except as provided in the following:

(i) An adjusted hourly SO_2 emission rate ($E_{ho}{}^{o}$) is used in Equation 19-19 of Method 19 of appendix A of this part to compute an adjusted 30-day average emission rate (Eao o). The Eho° is computed using the following formula:

$$E_{ho}^{o} = \frac{E_{ho} - E_w(1 - X_1)}{X_1}$$

Where:

$E_{ho}{}^{o}$ = Adjusted hourly SO_2 emission rate, ng/J (lb/MMBtu);

E_{ho} = Hourly SO_2 emission rate, ng/J (lb/MMBtu);

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted; and

X_k = Fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(ii) To compute the percent of potential SO_2 emission rate ($\%P_s$), an adjusted $\%R_g$ ($\%R_g{}^o$) is computed from the adjusted Eao o from paragraph (b)(3)(i) of this section and an adjusted average SO2 inlet rate (Eai o) using the following formula:

$$\%R_g^o = 100\left(1.0 - \frac{E_{ao}^o}{E_{ai}^o}\right)$$

To compute Eai o , an adjusted hourly SO2 inlet rate (Ehi o) is used. The Ehi o is computed using the following formula:

$$E_{hi}^o = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

Ehi o = Adjusted hourly SO2 inlet rate, ng/J (lb/MMBtu); and

E_{hi} = Hourly SO_2 inlet rate, ng/J (lb/MMBtu).

(4) The owner or operator of an affected facility subject to paragraph (c)(3) of this section does not have to measure parameters E_w or X_k if the owner or operator elects to assume that X_k = 1.0. Owners or operators of affected facilities who assume X_k = 1.0 shall:

(i) Determine $\%P_s$ following the procedures in paragraph (c)(2) of this section; and

(ii) Sulfur dioxide emissions (E_s) are considered to be in compliance with SO_2 emission limits under § 60.42b.

(5) The owner or operator of an affected facility that qualifies under the provisions of § 60.42b(d) does not have to measure parameters E_w or X_k in paragraph (c)(3) of this section if the owner or operator of the affected facility elects to measure SO_2 emission rates of the coal or oil following the fuel sampling and analysis procedures in Method 19 of appendix A-7 of this part.

(d) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility that combusts only very low sulfur oil, natural gas, or a mixture of these fuels, has an annual capacity factor for oil of 10 percent (0.10) or less, and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for oil of 10 percent (0.10) or less shall:

(1) Conduct the initial performance test over 24 consecutive steam generating unit operating hours at full load;

(2) Determine compliance with the standards after the initial performance test based on the arithmetic average of the hourly emissions data during each steam generating unit operating day if a CEMS is used, or based on a daily average if Method 6B of appendix A of this part or fuel sampling and analysis procedures under Method 19 of appendix A of this part are used.

(e) The owner or operator of an affected facility subject to § 60.42b(d)(1) shall demonstrate the maximum design capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. This demonstration will be made during the initial performance test and a subsequent demonstration may be requested at any other time. If the 24-hour average firing rate for the affected facility is less than the maximum design capacity provided by the manufacturer of the affected facility, the 24-hour average firing rate shall be used to determine the capacity utilization rate for the affected facility, otherwise the maximum design capacity provided by the manufacturer is used.

(f) For the initial performance test required under § 60.8, compliance with the SO_2 emission limits and percent reduction requirements under § 60.42b is based on the average emission rates and the average percent reduction for SO_2 for the first 30 consecutive steam generating unit operating days, except as provided under paragraph (d) of this section. The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

(g) After the initial performance test required under § 60.8, compliance with the SO_2 emission limits and percent reduction requirements under § 60.42b is based on the average emission rates and the average percent reduction for SO_2 for 30 successive steam generating unit operating days, except as provided under paragraph (d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for SO_2 are calculated to show compliance with the standard.

(h) Except as provided under paragraph (i) of this section, the owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$ and E_{ho} under paragraph (c), of this section whether or not the minimum emissions data requirements under § 60.46b are achieved. All valid emissions data, including valid SO_2 emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating $\%P_s$ and E_{ho} pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the SO_2 control systems when oil is combusted as provided under § 60.42b(i), emission data are not used to calculate $\%P_s$ or E_s under § 60.42b(a), (b) or (c), however, the emissions data are used to determine compliance with the emission limit under § 60.42b(i).

(j) The owner or operator of an affected facility that only combusts very low sulfur oil, natural gas, or a mixture of these fuels with any other fuels not subject to an SO_2 standard is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in § 60.49b(r).

(k) The owner or operator of an affected facility seeking to demonstrate compliance in §§ 60.42b(d)(4), 60.42b(j), 60.42b(k)(2), and 60.42b(k)(3) (when not burning coal) shall follow the applicable procedures in § 60.49b(r).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

§ 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

(a) The PM emission standards and opacity limits under § 60.43b apply at all times except during periods of startup, shutdown, or malfunction. The NO_X emission standards under § 60.44b apply at all times.

(b) Compliance with the PM emission standards under § 60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) of this section.

(c) Compliance with the NO_X emission standards under § 60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.

(d) To determine compliance with the PM emission limits and opacity limits under § 60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, using the following procedures and reference methods:

(1) Method 3A or 3B of appendix A-2 of this part is used for gas analysis when applying Method 5 of appendix A-3 of this part or Method 17 of appendix A-6 of this part.

(2) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

(ii) Method 17 of appendix A-6 of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A-3 of this part may be used in Method 17 of appendix A-6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A-6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.

(3) Method 1 of appendix A of this part is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(4) For Method 5 of appendix A of this part, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160±14 °C (320±25 °F).

(5) For determination of PM emissions, the oxygen (O_2) or CO_2 sample is obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(6) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rate expressed in ng/J heat input is determined using:

(i) The O_2 or CO_2 measurements and PM measurements obtained under this section;

(ii) The dry basis F factor; and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(7) Method 9 of appendix A of this part is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for NO_X required under § 60.44b, the owner or operator of an affected facility shall conduct the performance test as required under § 60.8 using the continuous system for monitoring NO_X under § 60.48(b).

(1) For the initial compliance test, NO_X from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NO_X emission standards under § 60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2) Following the date on which the initial performance test is completed or is required to be completed in § 60.8, whichever date comes first, the owner or operator of an affected facility which combusts coal (except as specified under § 60.46b(e)(4)) or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the NO_X emission standards in § 60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated for each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.

(3) Following the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity greater than 73 MW (250 MMBtu/hr) and that combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the NO_X standards under § 60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.

(4) Following the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBtu/hr) or less and that combusts natural gas, distillate oil, gasified coal, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the NO_X standards in § 60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NO_X emissions data collected pursuant to § 60.48b(g)(1) or § 60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the NO_X emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility that combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in § 60.49b(e), the requirements of § 60.48b(g)(1) apply and the provisions of § 60.48b(g)(2) are inapplicable.

(f) To determine compliance with the emissions limits for NO_X required by § 60.44b(a)(4) or § 60.44b(l) for duct burners used in combined cycle systems, either of the procedures described in paragraph (f)(1) or (2) of this section may be used:

(1) The owner or operator of an affected facility shall conduct the performance test required under § 60.8 as follows:

(i) The emissions rate (E) of NO_X shall be computed using Equation 1 in this section:

$$E = E_{sg} + \left(\frac{H_g}{H_b}\right)\left(E_{sg} - E_g\right) \qquad \text{(Eq.1)}$$

Where:

E = Emissions rate of NO_X from the duct burner, ng/J (lb/MMBtu) heat input;

E_{sg} = Combined effluent emissions rate, in ng/J (lb/MMBtu) heat input using appropriate F factor as described in Method 19 of appendix A of this part;

H_g = Heat input rate to the combustion turbine, in J/hr (MMBtu/hr);

H_b = Heat input rate to the duct burner, in J/hr (MMBtu/hr); and

E_g = Emissions rate from the combustion turbine, in ng/J (lb/MMBtu) heat input calculated using appropriate F factor as described in Method 19 of appendix A of this part.

(ii) Method 7E of appendix A of this part shall be used to determine the NO_X concentrations. Method 3A or 3B of appendix A of this part shall be used to determine O_2 concentration.

(iii) The owner or operator shall identify and demonstrate to the Administrator's satisfaction suitable methods to determine the average hourly heat input rate to the combustion turbine and the average hourly heat input rate to the affected duct burner.

(iv) Compliance with the emissions limits under § 60.44b(a)(4) or § 60.44b(l) is determined by the three-run average (nominal 1-hour runs) for the initial and subsequent performance tests; or

(2) The owner or operator of an affected facility may elect to determine compliance on a 30-day rolling average basis by using the CEMS specified under § 60.48b for measuring NO_X and O_2 and meet the requirements of § 60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NO_X emissions rate at the outlet from the steam generating unit shall constitute the NO_X emissions rate from the duct burner of the combined cycle system.

(g) The owner or operator of an affected facility described in § 60.44b(j) or § 60.44b(k) shall demonstrate the maximum heat input capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. The owner or operator of an affected facility shall determine the maximum heat input capacity using the heat loss method or the heat input method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1 (incorporated by reference, see § 60.17). This demonstration of maximum heat input capacity shall be made during the initial performance test for affected facilities that meet the criteria of § 60.44b(j). It shall be made within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of each facility, for affected facilities meeting the criteria of § 60.44b(k). Subsequent demonstrations may be required by the Administrator at any other time. If this demonstration indicates that the maximum heat input capacity of the affected facility is less than that stated by the manufacturer of the affected facility, the maximum heat input capacity determined during this demonstration shall be used to determine the capacity utilization rate for the affected facility. Otherwise, the maximum heat input capacity provided by the manufacturer is used.

(h) The owner or operator of an affected facility described in § 60.44b(j) that has a heat input capacity greater than 73 MW (250 MMBtu/hr) shall:

(1) Conduct an initial performance test as required under § 60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the NO_X emission standards under § 60.44b using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the NO_X emission standards under § 60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the PM limit in paragraphs § 60.43b(a)(4) or § 60.43b(h)(5) shall follow the applicable procedures in § 60.49b(r).

(j) In place of PM testing with Method 5 or 5B of appendix A-3 of this part, or Method 17 of appendix A-6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall comply with the requirements specified in paragraphs (j)(1) through (j)(14) of this section.

(1) Notify the Administrator one month before starting use of the system.

(2) Notify the Administrator one month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with § 60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under § 60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under § 60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (j) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraphs (j)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (j)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (j)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O_2 (or CO_2) data shall be collected concurrently (or within a 30-to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and

(ii) For O_2 (or CO_2), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours per 30-day rolling average.

(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in § 60.8, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (*i.e.,* reference method) data and performance test (*i.e.,* compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/ert_tool.html/*) 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.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9460, Feb. 16, 2012]

§ 60.47b Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (b) and (f) of this section, the owner or operator of an affected facility subject to the SO_2 standards in § 60.42b shall install, calibrate, maintain, and operate CEMS for measuring SO_2 concentrations and either O_2 or CO_2 concentrations and shall record the output of the systems. For units complying with the percent reduction standard, the SO_2 and either O_2 or CO_2 concentrations shall both be monitored at the inlet and outlet of the SO_2 control device. If the owner or operator has installed and certified SO_2 and O_2 or CO_2 CEMS according to the requirements of § 75.20(c)(1) of this chapter and appendix A to part 75 of this chapter, and is continuing to meet the ongoing quality assurance requirements of § 75.21 of this chapter and appendix B to part 75 of this chapter, those CEMS may be used to meet the requirements of this section, provided that:

(1) When relative accuracy testing is conducted, SO_2 concentration data and CO_2 (or O_2) data are collected simultaneously; and

(2) In addition to meeting the applicable SO_2 and CO_2 (or O_2) relative accuracy specifications in Figure 2 of appendix B to part 75 of this chapter, the relative accuracy (RA) standard in section 13.2 of Performance Specification 2 in appendix B to this part is met when the RA is calculated on a lb/MMBtu basis; and

(3) The reporting requirements of § 60.49b are met. SO_2 and CO_2 (or O_2) data used to meet the requirements of § 60.49b shall not include substitute data values derived from the missing data procedures in subpart D of part 75 of this chapter, nor shall the SO_2 data have been bias adjusted according to the procedures of part 75 of this chapter.

(b) As an alternative to operating CEMS as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emissions and percent reduction by:

(1) Collecting coal or oil samples in an as-fired condition at the inlet to the steam generating unit and analyzing them for sulfur and heat content according to Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO_2 input rate, or

(2) Measuring SO_2 according to Method 6B of appendix A of this part at the inlet or outlet to the SO_2 control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO_2 and CO_2 measurement train operated at the candidate location and a second similar train operated according to the procedures in section 3.2 and the applicable procedures in section 7 of Performance Specification 2. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 or 3B of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily SO_2 emission rate, E_D , shall be determined using the procedure described in Method 6A of appendix A of this part, section 7.6.2 (Equation 6A-8) and stated in ng/J (lb/MMBtu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/MMBtu) for 30 successive steam generating unit operating days using equation 19-20 of Method 19 of appendix A of this part.

(c) The owner or operator of an affected facility shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator or the reference methods and procedures as described in paragraph (b) of this section.

(d) The 1-hour average SO_2 emission rates measured by the CEMS required by paragraph (a) of this section and required under § 60.13(h) is expressed in ng/J or lb/MMBtu heat input and is used to calculate the average emission rates under § 60.42(b). Each 1-hour average SO_2 emission rate must be based on 30 or more minutes of steam generating unit operation. The hourly averages shall be calculated according to § 60.13(h)(2). Hourly SO_2 emission rates are not calculated if the affected facility is operated less than 30 minutes in a given clock hour and are not counted toward determination of a steam generating unit operating day.

(e) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) Except as provided for in paragraph (e)(4) of this section, all CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Except as provided for in paragraph (e)(4) of this section, quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities combusting coal or oil, alone or in combination with other fuels, the span value of the SO_2 CEMS at the inlet to the SO_2 control device is 125 percent of the maximum estimated hourly potential SO_2 emissions of the fuel combusted, and the span value of the CEMS at the outlet to the SO_2 control device is 50 percent of the maximum estimated hourly potential SO_2 emissions of the fuel combusted. Alternatively, SO_2 span values determined according to section 2.1.1 in appendix A to part 75 of this chapter may be used.

(4) As an alternative to meeting the requirements of requirements of paragraphs (e)(1) and (e)(2) of this section, the owner or operator may elect to implement the following alternative data accuracy assessment procedures:

(i) For all required CO_2 and O_2 monitors and for SO_2 and NO_X monitors with span values greater than or equal to 100 ppm, the daily calibration error test and calibration adjustment procedures described in sections 2.1.1 and 2.1.3 of appendix B to part 75 of this chapter may be followed instead of the CD assessment procedures in Procedure 1, section 4.1 of appendix F to this part.

(ii) For all required CO_2 and O_2 monitors and for SO_2 and NO_X monitors with span values greater than 30 ppm, quarterly linearity checks may be performed in accordance with section 2.2.1 of appendix B to part 75 of this chapter, instead of performing the cylinder gas audits (CGAs) described in Procedure 1, section 5.1.2 of appendix F to this part. If this option is selected: The frequency of the linearity checks shall be as specified in section 2.2.1 of appendix B to part 75 of this chapter; the applicable linearity specifications in section 3.2 of appendix A to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.2.3 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.2.4 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the cylinder gas audits described in Procedure 1, section 5.1.2 of appendix F to this part shall be performed for SO_2 and NO_X span values less than or equal to 30 ppm; and

(iii) For SO_2 , CO_2 , and O_2 monitoring systems and for NO_X emission rate monitoring systems, RATAs may be performed in accordance with section 2.3 of appendix B to part 75 of this chapter instead of following the procedures described in Procedure 1, section 5.1.1 of appendix F to this part. If this option is selected: The frequency of each RATA shall be as specified in section 2.3.1 of appendix B to part 75 of this chapter; the applicable relative accuracy specifications shown in Figure 2 in appendix B to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.3.2 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.3.3 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the relative accuracy specification in section 13.2 of Performance Specification 2 in appendix B to this part shall be met on a lb/MMBtu basis for SO_2 (regardless of the SO_2 emission level during the RATA), and for NO_X when the average NO_X emission rate measured by the reference method during the RATA is less than 0.100 lb/MMBtu.

(f) The owner or operator of an affected facility that combusts very low sulfur oil or is demonstrating compliance under § 60.45b(k) is not subject to the emission monitoring requirements under paragraph (a) of this section if the owner or operator maintains fuel records as described in § 60.49b(r).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009]

§ 60.48b Emission monitoring for particulate matter and nitrogen oxides.

(a) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility subject to the opacity standard under § 60.43b shall install, calibrate, maintain, and operate a continuous opacity monitoring systems (COMS) for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard under § 60.43b and meeting the conditions under paragraphs (j)(1), (2), (3), (4), (5), or (6) of this section who elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in § 60.11 to demonstrate compliance with the applicable limit in § 60.43b by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.,* 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.,* 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in § 60.46d(d)(7).

(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a NO_X standard under § 60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate CEMS for measuring NO_X and O_2 (or CO_2) emissions discharged to the atmosphere, and shall record the output of the system; or

(2) If the owner or operator has installed a NO_X emission rate CEMS to meet the requirements of part 75 of this chapter and is continuing to meet the ongoing requirements of part 75 of this chapter, that CEMS may be used to meet the requirements of this section, except that the owner or operator shall also meet the requirements of § 60.49b. Data reported to meet the requirements of § 60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of this chapter, nor shall the data have been bias adjusted according to the procedures of part 75 of this chapter.

(c) The CEMS required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average NO_X emission rates measured by the continuous NO_X monitor required by paragraph (b) of this section and required under § 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under § 60.44b. The 1-hour averages shall be calculated using the data points required under § 60.13(h)(2).

(e) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

(1) For affected facilities combusting coal, wood or municipal-type solid waste, the span value for a COMS shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for NO_X is determined using one of the following procedures:

(i) Except as provided under paragraph (e)(2)(ii) of this section, NO_X span values shall be determined as follows:

Fuel	**Span values for NO_X (ppm)**
Natural gas	500.
Oil	500.
Coal	1,000.
Mixtures	500 (x + y) + 1,000z.

Where:

x = Fraction of total heat input derived from natural gas;

y = Fraction of total heat input derived from oil; and

z = Fraction of total heat input derived from coal.

(ii) As an alternative to meeting the requirements of paragraph (e)(2)(i) of this section, the owner or operator of an affected facility may elect to use the NO_X span values determined according to section 2.1.2 in appendix A to part 75 of this chapter.

(3) All span values computed under paragraph (e)(2)(i) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm. Span values computed under paragraph (e)(2)(ii) of this section shall be rounded off according to section 2.1.2 in appendix A to part 75 of this chapter.

(f) When NO_X emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of this part, Method 7A of appendix A of this part, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(g) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBtu/hr) or less, and that has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, gasified coal, or any mixture of these fuels, greater than 10 percent (0.10) shall:

(1) Comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of this section; or

(2) Monitor steam generating unit operating conditions and predict NO_X emission rates as specified in a plan submitted pursuant to § 60.49b(c).

(h) The owner or operator of a duct burner, as described in § 60.41b, that is subject to the NO_X standards in § 60.44b(a)(4), § 60.44b(e), or § 60.44b(l) is not required to install or operate a continuous emissions monitoring system to measure NO_X emissions.

(i) The owner or operator of an affected facility described in § 60.44b(j) or § 60.44b(k) is not required to install or operate a CEMS for measuring NO_X emissions.

(j) The owner or operator of an affected facility that meets the conditions in either paragraph (j)(1), (2), (3), (4), (5), (6), or (7) of this section is not required to install or operate a COMS if:

(1) The affected facility uses a PM CEMS to monitor PM emissions; or

(2) The affected facility burns only liquid (excluding residual oil) or gaseous fuels with potential SO_2 emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and does not use a post-combustion technology to reduce SO_2 or PM emissions. The owner or operator must maintain fuel records of the sulfur content of the fuels burned, as described under § 60.49b(r); or

(3) The affected facility burns coke oven gas alone or in combination with fuels meeting the criteria in paragraph (j)(2) of this section and does not use a post-combustion technology to reduce SO_2 or PM emissions; or

(4) The affected facility does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2 , or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a steam generating unit operating day average basis. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (j)(4)(i) through (iv) of this section; or

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (j)(4)(i)(A) through (D) of this section.

(A) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in § 60.58b(i)(3) of subpart Eb of this part.

(B) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(C) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in § 60.13(h)(2).

(D) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(ii) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(iii) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(iv) You must record the CO measurements and calculations performed according to paragraph (j)(4) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(5) The affected facility uses a bag leak detection system to monitor the performance of a fabric filter (baghouse) according to the most current requirements in section § 60.48Da of this part; or

(6) The affected facility uses an ESP as the primary PM control device and uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the most current requirements in section § 60.48Da of this part; or

(7) The affected facility burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

(k) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in § 60.46b(j). The CEMS specified in paragraph § 60.46b(j) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(l) An owner or operator of an affected facility that is subject to an opacity standard under § 60.43b(f) is not required to operate a COMS provided that the unit burns only gaseous fuels and/or liquid fuels (excluding residue oil) with a potential SO_2 emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit operates according to a written site-specific monitoring plan approved by the permitting authority is not required to operate a COMS. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§ 60.8 and 60.11 that the owner or operator submit any deviations with the excess emissions report required under § 60.49b(h).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9460, Feb. 16, 2012]

§ 60.49b Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by § 60.7. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility;

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§ 60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i);

(3) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired; and

(4) Notification that an emerging technology will be used for controlling emissions of SO_2 . The Administrator will examine the description of the emerging technology and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42b(a) unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO_2 , PM, and/or NO_X emission limits under §§ 60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B of this part. The owner or operator of each affected facility described in § 60.44b(j) or § 60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

(c) The owner or operator of each affected facility subject to the NO_X standard in § 60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions in the provisions of § 60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored in § 60.48b(g)(2) and the records to be maintained in § 60.49b(g). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. An affected facility burning coke oven gas alone or in combination with other gaseous fuels or distillate oil shall submit this plan to the Administrator for approval within 360 days of the initial startup of the affected facility or by November 30, 2009, whichever date comes later. If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and NO_X emission rates (*i.e.* , ng/J or lbs/MMBtu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (*i.e.* , the ratio of primary air to secondary and/or tertiary air) and the level of excess air (*i.e.* , flue gas O_2 level);

(2) Include the data and information that the owner or operator used to identify the relationship between NO_X emission rates and these operating conditions; and

(3) Identify how these operating conditions, including steam generating unit load, will be monitored under § 60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under § 60.49b(g).

(d) Except as provided in paragraph (d)(2) of this section, the owner or operator of an affected facility shall record and maintain records as specified in paragraph (d)(1) of this section.

(1) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(2) As an alternative to meeting the requirements of paragraph (d)(1) of this section, the owner or operator of an affected facility that is subject to a federally enforceable permit restricting fuel use to a single fuel such that the facility is not required to continuously monitor any emissions (excluding opacity) or parameters indicative of emissions may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(e) For an affected facility that combusts residual oil and meets the criteria under §§ 60.46b(e)(4), 60.44b(j), or (k), the owner or operator shall maintain records of the nitrogen content of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content for the reporting period. The nitrogen content shall be determined using ASTM Method D4629 (incorporated by reference, see § 60.17), or fuel suppliers. If residual oil blends are being combusted, fuel nitrogen specifications may be prorated based on the ratio of residual oils of different nitrogen content in the fuel blend.

(f) For an affected facility subject to the opacity standard in § 60.43b, the owner or operator shall maintain records of opacity. In addition, an owner or operator that elects to monitor emissions according to the requirements in § 60.48b(a) shall maintain records according to the requirements specified in paragraphs (f)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (f)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (f)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the NO_X standards under § 60.44b shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The average hourly NO_X emission rates (expressed as NO_2) (ng/J or lb/MMBtu heat input) measured or predicted;

(3) The 30-day average NO_X emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;

(4) Identification of the steam generating unit operating days when the calculated 30-day average NO_X emission rates are in excess of the NO_X emissions standards under § 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;

(7) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h)(1) or (2) of this section is required to submit excess emission reports for any excess emissions that occurred during the reporting period.

(1) Any affected facility subject to the opacity standards in § 60.43b(f) or to the operating parameter monitoring requirements in § 60.13(i)(1).

(2) Any affected facility that is subject to the NO_X standard of § 60.44b, and that:

(i) Combusts natural gas, distillate oil, gasified coal, or residual oil with a nitrogen content of 0.3 weight percent or less; or

(ii) Has a heat input capacity of 73 MW (250 MMBtu/hr) or less and is required to monitor NO_X emissions on a continuous basis under § 60.48b(g)(1) or steam generating unit operating conditions under § 60.48b(g)(2).

(3) For the purpose of § 60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under § 60.43b(f).

(4) For purposes of § 60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average NO_X emission rate, as determined under § 60.46b(e), that exceeds the applicable emission limits in § 60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for NO_X under § 60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.

(j) The owner or operator of any affected facility subject to the SO_2 standards under § 60.42b shall submit reports.

(k) For each affected facility subject to the compliance and performance testing requirements of § 60.45b and the reporting requirement in paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates covered in the reporting period;

(2) Each 30-day average SO_2 emission rate (ng/J or lb/MMBtu heat input) measured during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken; For an exceedance due to maintenance of the SO_2 control system covered in paragraph 60.45b(a), the report shall identify the days on which the maintenance was performed and a description of the maintenance;

(3) Each 30-day average percent reduction in SO_2 emissions calculated during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(4) Identification of the steam generating unit operating days that coal or oil was combusted and for which SO_2 or diluent (O_2 or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken;

(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit;

(6) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(7) Identification of times when hourly averages have been obtained based on manual sampling methods;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3;

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part; and

(11) The annual capacity factor of each fired as provided under paragraph (d) of this section.

(l) For each affected facility subject to the compliance and performance testing requirements of § 60.45b(d) and the reporting requirements of paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates when the facility was in operation during the reporting period;

(2) The 24-hour average SO_2 emission rate measured for each steam generating unit operating day during the reporting period that coal or oil was combusted, ending in the last 24-hour period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(3) Identification of the steam generating unit operating days that coal or oil was combusted for which $S0_2$ or diluent (O_2 or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and description of corrective action taken;

(4) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit;

(5) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(6) Identification of times when hourly averages have been obtained based on manual sampling methods;

(7) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(8) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Procedure 1 of appendix F 1 of this part. If the owner or operator elects to implement the alternative data assessment procedures described in §§ 60.47b(e)(4)(i) through (e)(4)(iii), each data assessment report shall include a summary of the results of all of the RATAs, linearity checks, CGAs, and calibration error or drift assessments required by §§ 60.47b(e)(4)(i) through (e)(4)(iii).

(m) For each affected facility subject to the SO_2 standards in § 60.42(b) for which the minimum amount of data required in § 60.47b(c) were not obtained during the reporting period, the following information is reported to the Administrator in addition to that required under paragraph (k) of this section:

(1) The number of hourly averages available for outlet emission rates and inlet emission rates;

(2) The standard deviation of hourly averages for outlet emission rates and inlet emission rates, as determined in Method 19 of appendix A of this part, section 7;

(3) The lower confidence limit for the mean outlet emission rate and the upper confidence limit for the mean inlet emission rate, as calculated in Method 19 of appendix A of this part, section 7; and

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19 of appendix A of this part, section 7.

(n) If a percent removal efficiency by fuel pretreatment (*i.e.* , $\%R_f$) is used to determine the overall percent reduction (*i.e.* , $\%R_o$) under § 60.45b, the owner or operator of the affected facility shall submit a signed statement with the report.

(1) Indicating what removal efficiency by fuel pretreatment (*i.e.* , $\%R_f$) was credited during the reporting period;

(2) Listing the quantity, heat content, and date each pre-treated fuel shipment was received during the reporting period, the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the reporting period;

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit; and

(4) Including a signed statement from the owner or operator of the fuel pretreatment facility certifying that the percent removal efficiency achieved by fuel pretreatment was determined in accordance with the provisions of Method 19 of appendix A of this part and listing the heat content and sulfur content of each fuel before and after fuel pretreatment.

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p) The owner or operator of an affected facility described in § 60.44b(j) or (k) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The number of hours of operation; and

(3) A record of the hourly steam load.

(q) The owner or operator of an affected facility described in § 60.44b(j) or § 60.44b(k) shall submit to the Administrator a report containing:

(1) The annual capacity factor over the previous 12 months;

(2) The average fuel nitrogen content during the reporting period, if residual oil was fired; and

(3) If the affected facility meets the criteria described in § 60.44b(j), the results of any NO_X emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last NO_X emission test.

(r) The owner or operator of an affected facility who elects to use the fuel based compliance alternatives in § 60.42b or § 60.43b shall either:

(1) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil, natural gas, wood, a mixture of these fuels, or any of these fuels (or a mixture of these fuels) in combination with other fuels that are known to contain an insignificant amount of sulfur in § 60.42b(j) or § 60.42b(k) shall obtain and maintain at the affected facility fuel receipts (such as a current, valid purchase contract, tariff sheet, or transportation contract) from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in § 60.41b and the applicable sulfur limit. For the purposes of this section, the distillate oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this

definition, natural gas, wood, and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period; or

(2) The owner or operator of an affected facility who elects to demonstrate compliance based on fuel analysis in § 60.42b or § 60.43b shall develop and submit a site-specific fuel analysis plan to the Administrator for review and approval no later than 60 days before the date you intend to demonstrate compliance. Each fuel analysis plan shall include a minimum initial requirement of weekly testing and each analysis report shall contain, at a minimum, the following information:

(i) The potential sulfur emissions rate of the representative fuel mixture in ng/J heat input;

(ii) The method used to determine the potential sulfur emissions rate of each constituent of the mixture. For distillate oil and natural gas a fuel receipt or tariff sheet is acceptable;

(iii) The ratio of different fuels in the mixture; and

(iv) The owner or operator can petition the Administrator to approve monthly or quarterly sampling in place of weekly sampling.

(s) Facility specific NO_X standard for Cytec Industries Fortier Plant's C.AOG incinerator located in Westwego, Louisiana:

(1) *Definitions* .

Oxidation zone is defined as the portion of the C.AOG incinerator that extends from the inlet of the oxidizing zone combustion air to the outlet gas stack.

Reducing zone is defined as the portion of the C.AOG incinerator that extends from the burner section to the inlet of the oxidizing zone combustion air.

Total inlet air is defined as the total amount of air introduced into the C.AOG incinerator for combustion of natural gas and chemical by-product waste and is equal to the sum of the air flow into the reducing zone and the air flow into the oxidation zone.

(2) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the NO_X emission limit is 289 ng/J (0.67 lb/MMBtu) and a maximum of 81 percent of the total inlet air provided for combustion shall be provided to the reducing zone of the C.AOG incinerator.

(3) *Emission monitoring* . (i) The percent of total inlet air provided to the reducing zone shall be determined at least every 15 minutes by measuring the air flow of all the air entering the reducing zone and the air flow of all the air entering the oxidation zone, and compliance with the percentage of total inlet air that is provided to the reducing zone shall be determined on a 3-hour average basis.

(ii) The NO_X emission limit shall be determined by the compliance and performance test methods and procedures for NO_X in § 60.46b(i).

(iii) The monitoring of the NO_X emission limit shall be performed in accordance with § 60.48b.

(4) *Reporting and recordkeeping requirements* . (i) The owner or operator of the C.AOG incinerator shall submit a report on any excursions from the limits required by paragraph (a)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the C.AOG incinerator shall keep records of the monitoring required by paragraph (a)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of the C.AOG incinerator shall perform all the applicable reporting and recordkeeping requirements of this section.

(t) Facility-specific NO_X standard for Rohm and Haas Kentucky Incorporated's Boiler No. 100 located in Louisville, Kentucky:

(1) *Definitions* .

Air ratio control damper is defined as the part of the low NO_X burner that is adjusted to control the split of total combustion air delivered to the reducing and oxidation portions of the combustion flame.

Flue gas recirculation line is defined as the part of Boiler No. 100 that recirculates a portion of the boiler flue gas back into the combustion air.

(2) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO_X emission limit is 473 ng/J (1.1 lb/MMBtu), and the air ratio control damper tee handle shall be at a minimum of 5 inches (12.7 centimeters) out of the boiler, and the flue gas recirculation line shall be operated at a minimum of 10 percent open as indicated by its valve opening position indicator.

(3) *Emission monitoring for nitrogen oxides* . (i) The air ratio control damper tee handle setting and the flue gas recirculation line valve opening position indicator setting shall be recorded during each 8-hour operating shift.

(ii) The NO_X emission limit shall be determined by the compliance and performance test methods and procedures for NO_X in § 60.46b.

(iii) The monitoring of the NO_X emission limit shall be performed in accordance with § 60.48b.

(4) *Reporting and recordkeeping requirements* . (i) The owner or operator of Boiler No. 100 shall submit a report on any excursions from the limits required by paragraph (b)(2) of this section to the Administrator with the quarterly report required by § 60.49b(i).

(ii) The owner or operator of Boiler No. 100 shall keep records of the monitoring required by paragraph (b)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of Boiler No. 100 shall perform all the applicable reporting and recordkeeping requirements of § 60.49b.

(u) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia* . (1) This paragraph (u) applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia (“site”) and only to the natural gas-fired boilers installed as part of the powerhouse conversion required pursuant to 40 CFR 52.2454(g). The requirements of this paragraph shall apply, and the requirements of §§ 60.40b through 60.49b(t) shall not apply, to the natural gas-fired boilers installed pursuant to 40 CFR 52.2454(g).

(i) The site shall equip the natural gas-fired boilers with low NO_X technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring NO_X emissions discharged to the atmosphere and opacity using a continuous emissions monitoring system or a predictive emissions monitoring system.

(iii) Within 180 days of the completion of the powerhouse conversion, as required by 40 CFR 52.2454, the site shall perform a performance test to quantify criteria pollutant emissions.

(2) [Reserved]

(v) The owner or operator of an affected facility may submit electronic quarterly reports for SO_2 and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

(x) Facility-specific NO_X standard for Weyerhaeuser Company's No. 2 Power Boiler located in New Bern, North Carolina:

(1) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO_X emission limit is 215 ng/J (0.5 lb/MMBtu).

(2) *Emission monitoring for nitrogen oxides* . (i) The NO_X emissions shall be determined by the compliance and performance test methods and procedures for NO_X in § 60.46b.

(ii) The monitoring of the NO_X emissions shall be performed in accordance with § 60.48b.

(3) *Reporting and recordkeeping requirements* . (i) The owner or operator of the No. 2 Power Boiler shall submit a report on any excursions from the limits required by paragraph (x)(2) of this section to the Administrator with the quarterly report required by § 60.49b(i).

(ii) The owner or operator of the No. 2 Power Boiler shall keep records of the monitoring required by paragraph (x)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the No. 2 Power Boiler shall perform all the applicable reporting and recordkeeping requirements of § 60.49b.

(y) Facility-specific NO_X standard for INEOS USA's AOGI located in Lima, Ohio:

(1) *Standard for* NO_X . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When fossil fuel and chemical byproduct/waste are simultaneously combusted, the NO_X emission limit is 645 ng/J (1.5 lb/MMBtu).

(2) *Emission monitoring for* NO_X . (i) The NO_X emissions shall be determined by the compliance and performance test methods and procedures for NO_X in § 60.46b.

(ii) The monitoring of the NO_X emissions shall be performed in accordance with § 60.48b.

(3) *Reporting and recordkeeping requirements* . (i) The owner or operator of the AOGI shall submit a report on any excursions from the limits required by paragraph (y)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the AOGI shall keep records of the monitoring required by paragraph (y)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the AOGI shall perform all the applicable reporting and recordkeeping requirements of this section.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5089, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a Significant Permit Modification

Source Background and Description

Source Name:	**ALCOA Power Generating Inc., - Warrick Power Plant**
Source Location:	**4700 Darlington Road, Newburgh, IN 47630**
County:	**Warrick County**
SIC Code:	**4931 (Electric and Other Services Combined)**
Operation Permit No.:	**T173-29684-00002**
Operation Permit Issuance Date:	**August 31, 2011**
Significant Permit Modification No.:	**173-33817-00002**
Permit Reviewer:	**Deena Patton**

On February 13, 2014, the Office of Air Quality (OAQ) had a notice published in the Boonville Standard, Boonville, Indiana, stating that ALCOA Power Generating, Inc., - Warrick Power Plant had applied for a Significant Permit Modification to receive and handle calcined petroleum coke by barge. The notice also stated that the OAQ proposed to issue a Significant Permit Modification for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On March 12, 2014, ALCOA Power Generating Inc., - Warrick Power Plant submitted comments to IDEM, OAQ on the draft Significant Permit Modification.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

The emission unit description for the unloading station for barges (item (f) under A.2) conflicts with Condition D.3.1, with respect to barge unloading station throughput when handling calcined petroleum coke. To resolve the conflict, APGI request that the emissions unit description be amended to 150 tons of calcined petroleum coke per hour.

Response to Comment 1:

IDEM agrees with the recommended changes, since condition D.3.1 states 150 tons of calcined petroleum coke per hour. The permit has been revised as requested above.

(f) One (1) unloading station for barges, constructed prior to 1974, consisting of a clamshell bucket that transfers coal, limestone, and calcined petroleum coke from the barge to a spud hopper, with a nominal throughput of 1,300 tons of coal per hour**,** ~~or~~ 800 tons of limestone per hour, and **150** ~~100~~ tons of calcined petroleum coke per hour, a pipe conveyor will transfer the material to a hopper used for loading trucks, with emissions from the drop points controlled by a baghouse, exhausting through Stack 244. The spud

hopper and the baghouse were installed in 2008 in order to accommodate the transfer of limestone and approved for modification in 2013 in order to accommodate the transfer of calcined petroleum coke. The unloading station is not considered an affected facility under 40 CFR 60, Subpart OOO when unloading and transferring limestone because it is not physically connected to the crushing/grinding operations.

Comment 2:

Condition D.3.4(c) appears to be citing the wrong emission limitation conditions when specifying that PM2.5 emissions testing must be performed. To clarify what APGI believes to be the intent of Condition D.3.4(c), the conditions need to be changed to D.3.3.

Response to Comment 2:

IDEM agrees with the recommended changes, since condition D.3.4(c) states PM2.5, which would reference D.3.3 instead of D.3.1 and D.3.2. The permit has been revised as requested above.

(c) No later than December 31, 2015, and in order to demonstrate the compliance status with conditions ~~D.3.1 and D.3.2~~ **D.3.3**, the Permittee shall perform PM2.5 testing of the following units, utilizing methods as approved by the Commissioner:

(1) Limestone day silos 1-3;
(2) Dry flyash storage and loadout system;
(3) Units 1-3 intermediate dry flyash storage silo;
(4) Unit 4 intermediate dry flyash storage silo;
(5) Units 1-4 dry flyash conveyors.

These tests shall be repeated by December 31 of every fifth calendar year following the calendar year in which the most recent valid compliance demonstration was performed. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to performance testing required by this condition.

IDEM Contact

(a) Questions regarding this proposed Significant Permit Revision can be directed to Deena Patton at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5400 or toll free at 1-800-451-6027 extension 4-5400.

(b) A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Permit Modification

Source Description and Location

Source Name:	**ALCOA Power Generating, Inc. - Warrick Power**
Source Location:	**4700 Darlington Road, Newburgh, IN 47630**
County:	**Warrick**
SIC Code:	**4931 (Electric and Other Services Combined)**
Operation Permit No.:	**T 173-29684-00002**
Operation Permit Issuance Date:	**August, 31, 2011**
Significant Permit Modification No.:	**173-33817-00002**
Permit Reviewer:	**Deena Patton**

Existing Approvals

The source was issued Part 70 Operating Permit No. T173-29684-00002 on August 31, 2011. The source has since received the following approvals:

Permit Type	Permit Number	Issuance Date
Significant Permit Modification	173-30958-00002	February 3, 2012
Significant Source Modification	173-32940-00002	August 12, 2012
Significant Permit Modification	173-33009-00002	August 29, 2012

County Attainment Status

The source is located in Warrick County.

Pollutant	Designation
SO_2	Cannot be classified.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard.[1]
$PM_{2.5}$	Attainment effective October 27, 2011, for the annual $PM_{2.5}$ standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 24-hour $PM_{2.5}$ standard.
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

(a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Warrick County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Warrick County has been classified as attainment for $PM_{2.5}$. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. On May 4, 2011, the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective June 28, 2011. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Warrick County has been classified as attainment or unclassifiable in Indiana for all regulated pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this source is classified as a fossil fuel fired steam electric plant of more than two hundred fifty million (250,000,000) British thermal units per hour heat input, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

The calcined petroleum coke will not be used at the power plant, but rather in the production of anodes. The production of these anodes are permitted under a separate Part 70 Operating Permit. This Significant Permit Modification is only to address the manner in which the calcined petroleum coke is delivered to the facility.

Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	**Emissions** (ton/yr)
PM	>100
PM_{10}	>100
$PM_{2.5}$	> 100
SO_2	> 100
VOC	< 100
CO	> 100
NO_X	> 100
GHGs as CO_2e	>100, 000
Worst Single HAP	>10
Total	> 25

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1). Also, this existing source is a major stationary source, under PSD (326 IAC 2-2), because the emissions of GHGs are greater than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year.

(b) These emissions are based upon T173-32940-00002, issued on August 12, 2013.

(c) This existing source is a major source of HAPs, as defined in 40 CFR 63.2, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than

twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Alcoa Power Generating, Inc. - Warrick Power Plant on October 25, 2013 relating to the receiving and handling of calcined petroleum coke by barge. The following is a list of the modified emission unit(s) and pollution control device(s):

(f) One (1) unloading station for barges, constructed prior to 1974, consisting of a clamshell bucket that transfers coal**,** ~~and~~ limestone**, and calcined petroleum coke** from the barge to a spud hopper, with a nominal throughput of 1,300 tons of coal per hour**,** ~~or~~ 800 tons of limestone per hour**, or 100 tons of calcined petroleum coke per hour**, a pipe conveyor will transfer the material to a hopper used for loading trucks, with emissions from the drop points controlled by a baghouse, exhausting through Stack 244. The spud hopper and the baghouse were installed in 2008 in order to accommodate the transfer of limestone **and approved for modification in 2014 in order to accommodate the transfer of calcined petroleum coke**. The unloading station is not considered an affected facility under 40 CFR 60, Subpart OOO when unloading and transferring limestone because it is not physically connected to the crushing/grinding operations.

Alcoa Power Generating, Inc. - Warrick Power Plant, would also like to change limits corresponding to the spud barge and truck loading hoppers and material hauling on internal plant haul roads.

Enforcement Issues

There are no pending enforcement actions related to this modification.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Increase in PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (ton/yr)
PM	7.3
PM_{10}	1.46
$PM_{2.5}$	0.36
SO_2	0.00
VOC	0.00
CO	0.00
NO_X	0.00
Single HAPs	0.00
Total HAPs	0.00

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

There is no increase in the potential to emit of any regulated pollutants associated with this modification. This modification is not subject to the source modification requirements under 326 IAC 2-7-10.5. The changes will be incorporated into the permit as a Significant Permit Modification under 326 IAC 2-7-12(d), because the source would also like to change limits corresponding to the spud barge and truck loading hoppers and material hauling on internal plant haul roads.

Permit Level Determination – PSD

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (ton/yr)							
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$***	**SO_2**	**VOC**	**CO**	**NO_X**	**GHGs**
Spud Barge Storage Hopper, Discharge Conveyor, and Truck Hopper Filling and Emptying (Coke)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads (Coke)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paved Roads (Coke)	7.3	1.46	0.36	0.00	0.00	0.00	0.00	0.00
Total for Modification	7.3	1.46	0.36	0.00	0.00	0.00	0.00	0.00
Actual to Projected Actual								
Baseline	0.94	0.43	0.09	0.00	0.00	0.00	0.00	0.00
Projected Actuals	19.01	9.19	7.27	0.00	0.00	0.00	0.00	0.00
Emissions Increase (ATPA)	18.07	8.76	7.41	0.00	0.00	0.00	0.00	0.00

*$PM_{2.5}$ listed is direct $PM_{2.5}$.

The Permittee has provided information as part of the application for this approval that based on Actual to Projected Actual test in 326 IAC 2-2-2 this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1. IDEM, OAQ has not reviewed this information and will not be making any determination in this regard as part of this

approval. The applicant will be required to keep records and report in accordance with Source obligation in 326 IAC 2-2-8 and Applicability in 326 IAC 2-3-2.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this modification:

NSPS:

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

NESHAP:

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed modification.

(c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the modified units as part of this modification.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 (PSD)
PSD and Emission Offset applicability is discussed under the Permit Level Determination – PSD and Emission Offset section.

326 IAC 2-6 (Emission Reporting)
Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6-1(a)(1) (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3(a)(1), an emission statement must be submitted annually, since the source has the potential to emit annual emissions greater than or equal to two thousand and five hundred (2,500) tons per year of NOx and two hundred and fifty (250) tons per year of PM10. The first report is due no later than July 1, 2011, and subsequent reports are due every year thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination

Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no new Compliance Determination Requirements as a result of this modification.

There are no compliance monitoring requirements as a result of this modification.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. T173-29684-00002, Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]
[326 IAC 2-7-5(~~15~~**14**)]

This stationary source consists of the following emission units and pollution control devices:

****

(f) One (1) unloading station for barges, constructed prior to 1974, consisting of a clamshell bucket that transfers coal**,** ~~and~~ limestone**, and calcined petroleum coke** from the barge to a spud hopper, with a nominal throughput of 1,300 tons of coal per hour**,** ~~or~~ 800 tons of limestone per hour**, and 100 tons of calcined petroleum coke per hour**, a pipe conveyor will transfer the material to a hopper used for loading trucks, with emissions from the drop points controlled by a baghouse, exhausting through Stack 244. The spud hopper and the baghouse were installed in 2008 in order to accommodate the transfer of limestone **and approved for modification in 2014 in order to accommodate the transfer of calcined petroleum coke**. The unloading station is not considered an affected facility under 40 CFR 60, Subpart OOO when unloading and transferring limestone because it is not physically connected to the crushing/grinding operations.

***

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(f) One (1) unloading station for barges, constructed prior to 1974, consisting of a clamshell bucket that transfers coal**,** ~~and~~ limestone**, and calcined petroleum coke** from the barge to a spud hopper, with a nominal throughput of 1,300 tons of coal per hour**,** ~~or~~ 800 tons of limestone per hour**, and 100 tons of calcined petroleum coke per hour**, a pipe conveyor will transfer the material to a hopper used for loading trucks, with emissions from the drop points controlled by a baghouse, exhausting through Stack 244. The spud hopper and the baghouse were installed in 2008 in order to accommodate the transfer of limestone **and approved for modification in 2014 in order to accommodate the transfer of calcined petroleum coke**. The unloading station is not considered an affected facility under 40 CFR 60, Subpart OOO when unloading and transferring limestone because it is not physically connected to the crushing/grinding operations

***

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, particulate emissions from each of the following operations shall not exceed the pound per hour limits listed in the table below:

Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
Unloading Station (when handling coal)	1,300	81
Coal storage, handling drop points, crushers, and bunkers	1,300	81
Unloading Station (when handling limestone)	800	74.74
Limestone storage and handling drop points	500	68.96
Limestone wet ball mills	20	51
Dewatered gypsum transfer and handling system	72	48
Unit #1 Pneumatic Conveyor Air Filter/Separators	14	24
Unit #2 Pneumatic Conveyor Air Filter/Separators	14	24
Unit #3 Pneumatic Conveyor Air Filter/Separators	14	24
Unit #4 Pneumatic Conveyor Air Filter/Separator	30	40
Unit #1 Intermediate Flyash Silo	14	24
Unit #2 Intermediate Flyash Silo	14	24
Unit #3 Intermediate Flyash Silo	14	24
Unit #4 Intermediate Flyash Silo	30	40
Flyash Loadout Silo	72	48
Unloading station (when handling petroleum coke)	**150**	**55.44**

These limits are determined by the following equations:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

When the process weight rate exceeds two hundred (200) tons per hour, the maximum allowable emission may exceed E pounds per hour, provided the concentration of

particulate matter in the discharge gases to the atmosphere is less than 0.10 pounds per one thousand (1,000) pounds of gases.

[Change 1]: Condition D.3.2(d) is being added in this permit for the modified spud barge and truck loading hoppers annual emissions, since the table in Condition D.3.2(a) only lists hourly emissions. Further clarification was made to the exact roads that were affected.

D.3.2 PSD Minor Limits [326 IAC 2-2]

In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the following conditions shall apply:

(a) The PM/PM10 emissions shall not exceed the following:

Process Description	Control (Stack/Vent)	PM Emission Limit (lbs/hr)	PM_{10} Emission Limit (lbs/hr)
Unloading Station for Barges Spud Hopper, Truck Loading Hopper, and conveyance points	Unloading Station for Barges **Spud Hopper and Truck Loading Hopper** Baghouse (244)	9.43	9.43
Limestone Day Silos No. 1, No. 2, and No. 3, and associated weight scales and conveyance drop points.	Limestone Day Silos Bin Vent Filters (245), (246), (247)	0.29	0.29
Unit #1 Flyash Transfer	Unit #1 Conveyor Baghouse (283A1)	0.37	0.37
Unit #2 Flyash Transfer	Unit #2 Conveyor Baghouse (283A2)	0.37	0.37
Unit #3 Flyash Transfer	Unit #3 Conveyor Baghouse (283A3)	0.37	0.37
Unit #4 Flyash Transfer	Unit #4 Conveyor Baghouse (283B1)	0.37	0.37
Unit #1-#3 Intermediate Storage	Unit #1-#3 Intermediate Silo Baghouse (283A)	0.03	0.03
Unit #4 Intermediate Storage	Unit #4 Intermediate Silo Baghouse (283B)	0.06	0.06
Flyash Storage/Loadout Silo	Baghouse (283C)	0.3	0.3

Compliance with these limits, in conjunction with the PM/PM10 fugitive emissions from the **"Y-pit" gravel haul,** associated **limestone, gypsum, and calcium hydroxide** road travel ~~and~~ **limestone and gypsum** storage piles, **the unloading station for barges spud hopper, truck loading hopper, and conveyance points** ensures the PM emissions from the limestone transfer, handling, and storage, shall not exceed 429.13 tons per year, and the PM_{10} emissions shall not exceed 145.93 tons per year.

[Change 2]: Condition D.3.2(b) is amended by including the haul road emissions associated with moving calcined petroleum coke with the coal handling emissions.

(b) The coal throughput to the coal transfer station shall not exceed 3,707,969 tons per twelve (12) consecutive month period with compliance determined at the end of each month. **The calcined petroleum coke throughput from the unloading station for barges spud hopper, truck loading hopper, and conveyance points shall not exceed 123,846 tons per twelve (12) consecutive month period with compliance**

determined at the end of each month.

Compliance with ~~this~~ **these** limit**s** ensures the PM/PM10 emissions from the coal transfer station **and calcined petroleum coke hauling**, including PM/PM10 fugitive emissions from the associated road travel, shall not exceed 450 tons per year of PM and 340 tons per year of PM10.

Compliance with the PM/PM10 limits in Conditions D.1.1, and D.3.2 shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to Significant Source Modifications No. 173-22006-00002.

(c) The following conditions limitations shall apply to 211 rail car dumper operation;

(1) The PM emissions from the rail car dumper shall not exceed 24.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) The PM_{10} emissions from the rail car coal dumper shall not exceed 14.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits, combined with the potential to emit particulate emissions from other emission units at the source, shall limit the potential to emit of particulate matter (PM and PM_{10}) to less than Prevention of Significant Deterioration (PSD) significant levels, and render the requirements of 326 IAC 2-2 not applicable to the modification approved by ~~173-32940-00002~~ **173-33817-00002.**

[Change 3]: Condition D.3.3(a) needs to have a new Condition D.3.3(c) added for the modified spud barge and truck loading hoppers annual emissions, since the table in Condition D.3.3(a) only lists hourly emissions. Further clarification was made to indicate which roads were affected.

D.3.3 Nonattainment New Source Review (NSR) Minor Limit for PM2.5 [326 IAC 2-1.1-5]

In order to render 326 IAC 2-1.1-5 (Nonattainment New Source Review (NSR)) not applicable, the following conditions shall apply:

(a) The PM2.5 emissions shall not exceed the following:

Process Description	Control (Stack/Vent)	PM2.5 Emission Limit (lbs/hr)
Unloading Station for Barges Spud Hopper, Truck Loading Hopper, and conveyance points	Hopper Baghouse (244)	9.43
Limestone Day Silos No. 1, No. 2, and No. 3, and associated weight scales and conveyance drop points.	Limestone Day Silos Bin Vent Filters (245), (246), (247)	0.29
Unit #1 Flyash Transfer	Unit #1 Conveyor Baghouse (283A1)	0.37
Unit #2 Flyash Transfer	Unit #2 Conveyor Baghouse (283A2)	0.37
Unit #3 Flyash Transfer	Unit #3 Conveyor Baghouse (283A3)	0.37
Unit #4 Flyash Transfer	Unit #4 Conveyor Baghouse (283B1)	0.37
Unit #1-#3 Intermediate Storage	Unit #1-#3 Intermediate Silo Baghouse (283A)	0.03
Unit #4 Intermediate Storage	Unit #4 Intermediate Silo Baghouse (283B)	0.06
Flyash Storage/Loadout Silo	Baghouse (283C)	0.3

[Change 3]: The PM2.5 emission limit of 145.93 tons /year was derived during the permit review for permit number 22581, and by assuming that PM10 emissions were equivalent to PM2.5 emissions. The modified language, therefore, clarifies which fugitive emission sources are included in the PM2.5 annual emission limits. Since the spud hopper and truck loading hopper baghouse will have separate allowable emission rate, the PM2.5 emission limit must be reduced from 145.93 to 125.05 tons per year. Furthermore, in Condition D.3.3(b) will be amended by including the haul road emissions associated with moving calcined petroleum coke with the coal handling emissions. Therefore, PM2.5 emissions in Condition D.3.3(b) will increase from 340 to 340.43 tons per year. In addition, the annual calcined petroleum coke throughput limit will be added to Condition D.3.2(b).

Compliance with these limits, in conjunction with the PM2.5 fugitive emissions from the **"Y-pit" gravel haul road,** associated **limestone, gypsum, and calcium hydroxide** road travel and **limestone and gypsum** storage piles, ensures the $PM_{2.5}$ emissions from the limestone transfer, handling, and storage, shall not exceed ~~145.93~~ **125.05** tons per year.

(b) The coal throughput to the coal transfer station shall not exceed 3,707,969 tons per twelve (12) consecutive month period **and a calcined petroleum coke throughput of 123,456 tons per twelve (12) consecutive month period** with compliance determined at the end of each month.

Compliance with this limit ensures the $PM_{2.5}$ emissions from the coal transfer station, including fugitive emissions from the associated road travel, shall not exceed 340**.34** tons per year.

(c) The PM2.5 emissions from the unloading station for barges spud hopper, truck loading hopper, and conveyance points baghouse shall not exceed 7.07 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the PM2.5 limits in Conditions D.1.2, D.3.3 shall render the requirements of 326 IAC 2-1.1-5-2 (Nonattainment New Source Review (NSR)) not applicable to Significant Source Modifications No. 173-22006-00002.

Compliance Determination Requirements

D.3.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

***

(d) Within one hundred and eighty (180) days after initial startup, and in order to demonstrate the compliance status with conditions D.3.1 and D.3.2, the Permittee shall perform PM and PM10 testing of the barge unloading of the petroleum coke operations utilizing methods as approved by the Commissioner. These tests shall be repeated every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

D.3.5 Particulate Control [326 IAC 2-7-6(6)]

***

D.3.6 Compliance Determination Requirements

***

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.7 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

***

(b) Pursuant to 40 CFR 64, the following conditions shall apply to the coal**,** ~~and~~ limestone **and petroleum coke** unloading station:

(1) Visible emission notations of the coal**,** ~~and~~ limestone **and petroleum coke** unloading station baghouse exhaust (244) shall be performed once per week. A trained employee shall record whether any emissions are observed.

***

(c) The following conditions shall apply to the dry flyash storage and loadout system:

(1) Visible emission notations of the Stack exhausts for Unit #1 Conveyor Baghouse (283A1), Unit #2 Conveyor Baghouse (283A2), Unit #3 Conveyor Baghouse (283A3), Unit #4 Conveyor Baghouse (283B1), Unit #1-#3 Intermediate Silo Baghouse (283A), Unit #4 Intermediate Silo Baghouse (283B), and the Flyash Storage/Loadout Silo Baghouse (283C) shall be performed at least once per day during normal daylight operations.

(2) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

***

Failure to take the response steps required by Condition D.3.6(c) upon observation of visible emissions shall be considered a deviation from this permit.

D.3.8 Particulate Control [326 IAC 2-7-6(6)]

***

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.9 Record Keeping Requirements

***

(b) To document the compliance status with Section C - Opacity, Section C - Fugitive Dust Emissions, and Condition 3.7(b), the Permittee shall maintain a weekly record of the visible emission notations of the coal**,** ~~and~~ limestone **and petroleum coke** unloading station baghouse exhaust (244). The Permittee shall include in its weekly record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate).

***

Additional Changes

[Change 1]

On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions resulted in changes to the rule sites listed in the permit. These changes are not changes to the underlining provisions. The change is only to site of these rules in Section A - General Information, Section A - Emission Units and Pollution Control Equipment Summary, ***Section A - Specifically Regulated Insignificant Activities***, Section B - Preventative Maintenance Plan, Section B - Emergency Provisions, Section B - Operational Flexibility, ***Section B - Advanced Source Modification Approval,*** Section C - Risk Management Plan, the Facility Descriptions, ***and Section D - Preventative Maintenance Plan***.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(~~15~~**14**)][326 IAC 2-7-1(22)]

***

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(~~15~~**14**)]

***

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(~~15~~**14**)]

***

B.10 Preventive Maintenance Plan [326 IAC 2-7-5~~(1),(3) and (13)~~ **(12)**][~~326 IAC 2-7-6(1) and (6)]~~[326 IAC 1-6-3]

***

B.11 Emergency Provisions [326 IAC 2-7-16]

***

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(~~9~~**8**) be revised in response to an emergency.

***

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b)~~,~~ **or** (c)~~, or (e)~~ without a prior permit revision, if each of the following conditions is met:

***

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b)~~,~~ **or** (c)~~, or (e)~~. The Permittee shall make such records

available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1)~~,~~ **and** (c)(1)~~., and (e)(2).~~

***

C.13 Risk Management Plan [326 IAC 2-7-5(~~12~~**11**)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

***

SECTION D.4 FACILITY OPERATION CONDITIONS - Diesel Engines

Facility Description [326 IAC 2-7-5(~~15~~**14**)]

***

***

SECTION E TITLE IV ACID RAIN PROGRAM CONDITIONS

Facility Description [326 IAC 2-7-5(~~15~~**14**)]

***

***

SECTION G.1 FACILITY OPERATION CONDITIONS - Standards of Performance for Stationary Nonmetallic Mineral Processing Plants

Facility Description [326 IAC 2-7-5(~~15~~**14**)]
***

***

SECTION G.3 FACILITY OPERATION CONDITIONS - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Facility Description [326 IAC 2-7-5(~~15~~**14**)]
***

***

SECTION H Clean Air Interstate Rule (CAIR) Nitrogen Oxides Annual, Sulfur Dioxide, and Nitrogen Oxides Ozone Season Trading Programs – CAIR Permit for CAIR Units Under 326 IAC 24-1-1(a), 326 IAC 24-2-1(a), and 326 IAC 24-3-1(a)

Facility Description [326 IAC 2-7-5(~~15~~**14**)]

*****

***

[Change 2]
On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions included the incorporation of the U.S. EPA's definition of reasonable possibility. The permit previously sited to the EPA definition. Also, the revisions resulted in changes to other rule sites listed in the permit. Neither of these changes are changes to the underlining provisions. The change is only to site of these rules in Section C - General Reporting and Section C - General Recordkeeping.

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]

***

(c) If there is a reasonable possibility (as defined in ~~40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b))~~ **326 IAC 2-2-8 (b)(6)(A), 326 IAC 2-2-8 (b)(6)(B), 326 IAC 2-3-2 (l)(6)(A), and/or 326 IAC 2-3-2 (l)(6)(B))** that a "project" (as defined in 326 IAC 2-2-1(~~qq~~**oo**) and/or 326 IAC 2-3-1(~~ll~~**jj**)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(~~ee~~**dd**) and/or 326 IAC 2-3-1(~~z~~**y**)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(~~rr~~**pp**) and/or 326 IAC 2-3-1(~~mm~~**kk**)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(~~qq~~**oo**) and/or 326 IAC 2-3-1(~~ll~~**jj**)) at an existing emissions unit, document and maintain the following records:

***

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

***

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(~~rr~~**pp**)(2)(A)(iii) and/or 326 IAC 2-3-1 (~~mm~~**kk**)(2)(A)(iii); and

***

(d) If there is a reasonable possibility (as defined in ~~40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)~~ **326 IAC 2-2-8 (b)(6)(A) and/or 326 IAC 2-3-2 (l)(6)(A)**) that a "project" (as defined in 326 IAC 2-2-1(~~qq~~**oo**) and/or 326 IAC 2-3-1(~~ll~~**jj**)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(~~ee~~**dd**) and/or 326 IAC 2-3-1(~~z~~**y**)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(~~rr~~**pp**) and/or 326 IAC 2-3-1(~~mm~~**kk**)), the Permittee shall comply with following:

****

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

***

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (~~qq~~**oo**) and/or 326 IAC 2-3-1 (~~ll~~**jj**)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (~~xx~~**ww**) and/or 326 IAC 2-3-1 (~~qq~~**pp**), for that regulated NSR pollutant, and

***

[Change 3]

On November 3, 2011, the Indiana Air Pollution Control Board issued a revision to 326 IAC 2. The

revision resulted in a change to the rule site of the “responsible official” definition.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(~~34~~**35**), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(~~34~~**35**).

***

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

***

(c) The annual compliance certification report shall include the following:
***

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(~~34~~**35**).

***

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

***

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

****

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(~~34~~**35**).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(~~34~~**35**).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation

Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

***

B.11 Emergency Provisions [326 IAC 2-7-16]

***

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(~~34~~**35**).

***

[Change 4]

IDEM is changing the Section C Compliance Monitoring Condition to clearly describe when new monitoring for new and existing units must begin.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

(a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance ~~or of initial start-up, whichever is later,~~ to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance ~~or the date of initial startup, whichever is later,~~ the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality

100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

~~Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.~~

***

[Change 5]

IDEM clarified the following condition to indicate that the analog instrument must be capable of measuring the parameters outside the normal range.

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. **The analog instrument shall be capable of measuring values outside of the normal range.**

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

***

[Change 6]

IDEM, OAQ has clarified the Permittee's responsibility with regards to record keeping.
IDEM added "where applicable" to the lists in Section C - General Record Keeping Requirements to more closely match the underlying rule.

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. **Support information includes the following, where applicable:**

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following, where applicable:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.
(BB) The dates analyses were performed.
(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.

(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

***

[Change 7]

IDEM, OAQ has clarified the interaction of the Quarterly Deviation and Compliance Monitoring Report and the Emergency Provisions.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. **Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of this paragraph.** Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

***

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

***

This report shall be submitted quarterly based on a calendar year. **Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C - General Reporting.** Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

***

[Change 8]
On November 3, 2011, the Indiana Air Pollution Control Board issued a revision to 326 IAC 2. The revision resulted in a change to the rule site of the “responsible official” definition.

D.1.23 Reporting Requirements

(a) The following shall apply for Boiler No. 1, Boiler No. 2, and Boiler No. 3:
A quarterly report of the information to document the compliance status with Conditions D.1.1, D.1.2, D.1.8, and D.1.9 (a) and (c) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1 (~~34~~**35**).

(b) The following shall apply for Boiler No. 4:
A quarterly report of opacity exceedances and a quarterly summary of the information to document the compliance status with Conditions D.1.1, D.1.2, D.1.7, and D.1.9(a) and (b) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(~~34~~**35**).

(c) The following shall apply to Boiler No. 1, Boiler No. 2, Boiler No. 3, and Boiler No. 4:
Pursuant to 326 IAC 3-5-7(5), reporting of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(1) Date of downtime.

(2) Time of commencement.

(3) Duration of each downtime.

(4) Reasons for each downtime.

(5) Nature of system repairs and adjustments.

The report submitted by the Permittee does require the certification by a "responsible official" as defined by 326 IAC 2-7-1(~~34~~**35**).

***

[Change 9]
On January 30, 2013, the Indiana Air Pollution Control Board issued a revision to 326 IAC 8-3. The revision resulted in a change to the rule.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

~~D.5.1 Organic Solvent Degreasing Operations: Cold Cleaner Operation [326 IAC 8-3-2]~~
~~Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the Permittee shall:~~

~~(a) Equip the cleaner with a cover;~~

~~(b) Equip the cleaner with a facility for draining cleaned parts;~~

~~(c) Close the degreaser cover whenever parts are not being handled in the cleaner;~~

~~(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;~~

~~(e) Provide a permanent, conspicuous label summarizing the operation requirements;~~

~~(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.~~

~~D.5.2 Organic Solvent Degreasing Operations: Cold Cleaner Degreaser Operation and Control [326 IAC 8-3-5]~~

~~(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control) for a cold cleaner degreaser facility, the Permittee shall ensure that the following control equipment requirements are met:~~

~~(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:~~

~~(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));~~

~~(B) The solvent is agitated; or~~

~~(C) The solvent is heated.~~

~~(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.~~

~~(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).~~

~~(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.~~

~~(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120°F)):~~

~~(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.~~

~~(B) A water cover when solvent is used is insoluble in, and heavier than, water.~~

~~(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.~~

~~(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), for a cold cleaning facility, the Permittee shall ensure that the following operating requirements are met:~~

~~(1) Close the cover whenever articles are not being handled in the degreaser.~~

~~(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.~~

~~(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.~~

D.5.1 Organic Solvent Degreasing Operation [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2, the Permittee shall:

(a) The owner or operator of a cold cleaner degreaser shall ensure the following control equipment and operating requirements are met:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.

(5) Proved a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) The owner or operator of a cold cleaner degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one-hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) A refrigerated chiller.

(D) Carbon adsorption.

(E) An alternative system demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:

(A) Must be solid, fluid stream; and

(B) Shall be applied at a pressure that does not cause excessive splashing.

D.5.2 Material Requirements for Cold Cleaner Degreasers

(a) Material requirements specified in this section for use in cold cleaner degreasers apply as follows:

(1) Before January 1, 2015, in Clark, Floyd, Lake, and Porter counties.

(2) On or after January 1, 2015, anywhere in the state.

(b) Material requirements are as follows:

(1) No person shall cause or allow the sale of solvents for use in cold cleaner degreasing operations with a VOC composite partial vapor pressure, when diluted at the manufacturer's recommended blend and dilution, that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit) in an amount greater than five (5) gallons during seven (7) consecutive days to an individual or business.

(2) No person shall operate a cold cleaner degreaser with a solvent has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

(c) Record keeping requirements are as follows;

(1) All persons subject to the requirements of subsection (b)(1) shall maintain all of the following records for each sale:

(A) The name and address of the solvent purchaser.

(B) The date of sale (or invoice/bill date of contract servicer indicating service date).

(C) The type of solvent sold.

(D) The volume of each unit of solvent sold.

(E) The total volumen of the solvent sold.

(F) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

(2) All persons subject to the requirements of subsection (b)(2) shall maintain each of the following records for each purchase:

(A) The name and address of the solvent supplier.

(B) The date of purchase (or invoice/bill date of contract servicer indicating service date).

(C) The type of solvent purchased.

(D) The total volume of the solvent purchased.

(E) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees

Fahrenheit).

(d) All records required by subsection (c) shall be:

(1) Retained on-site or accessible electronically from the site for the most recent three (3) year period; and

(2) reasonably accessible for an additional two (2) year period.

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Permit Modification No. 173-33817-00002. The staff recommends to the Commissioner that this Part 70 Significant Permit Modification be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Deena Patton at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5400 or toll free at 1-800-451-6027 extension 4-5400.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emission Calculations
Summary

Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
Address City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
Permit Number: 173-33817-00002
Reviewer: Deena Patton

Uncontrolled Potential to Emit (ton/yr)											
Emission Unit/ID	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_x**	**VOC**	**CO**	**GHGs/CO_2e**	**Total HAPs**	**Worst Single HAP**	
Coal fired Boiler 1	40549.94	9326.49	9326.49	35138.92	3594.27	16.34	163.38	7361482.00	3.93E+06	3.43E+06	HCl
Coal fired Boiler 2	40549.94	9326.49	9326.49	35138.92	3594.27	16.34	163.38		3.93E+06	3.43E+06	HCl
Coal fired Boiler 3	40549.94	9326.49	9326.49	35138.92	3594.27	16.34	163.38		3.93E+06	3.43E+06	HCl
Coal fired Boiler 4	75485.66	17361.70	17361.70	65412.80	6690.91	30.41	304.13		7.32E+06	6.39E+06	HCl
Emergency Rolling Mill Boiler	0.64	2.58	2.58	0.20	33.92	1.87	28.50	40955.98	0.64	0.61	Hexane
Rail Car Dumper/211	94.37	44.64	6.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Unit #1 Pneumatic Conveyor / Separator	9.20	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.01	2.38E-03	Manganese
Unit #2 Pneumatic Conveyor / Separator	9.20	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.01	2.38E-03	Manganese
Unit #3 Pneumatic Conveyor / Separator	9.20	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.01	2.38E-03	Manganese
Unit #4 Pneumatic Conveyor / Separator	19.71	19.71	19.71	0.00	0.00	0.00	0.00	0.00	0.02	0.01	Manganese
Unit #1 - #3 Intermediate Fly Ash Silo	27.59	27.59	27.59	0.00	0.00	0.00	0.00	0.00	0.03	0.01	Manganese
Unit #4 Intermediate Fly Ash Silo	19.71	19.71	19.71	0.00	0.00	0.00	0.00	0.00	0.02	0.01	Manganese
Flyash Storage/Loadout Silo	47.30	47.30	47.30	0.00	0.00	0.00	0.00	0.00	0.05	0.01	Manganese
Dewatered Gypsum Handling	47.30	47.30	47.30	0.00	0.00	0.00	0.00	0.00	0.05	0.01	Manganese
Diesel Firepumps	0.32	0.32	0.32	0.30	4.54	0.37	0.98	169.04	0.00	0.00	Formaldehyde
Spud and Truck Hoppers (worst case coal)	398.58	318.86	318.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Flyash Storage Silo and Gypsum Slurry Vent	9.10	9.10	9.10	0.00	0.00	0.00	0.00	0.00	1.54E-04	1.30E-04	Lead
Total Non-Fugtive Emissions	**197420.02**	**45577.92**	**45540.04**	**170830.07**	**17512.20**	**81.66**	**823.73**	**7402607.02**	**1.91E+07**	**1.67E+07**	**HCl**
Fugitive Emissions											
Limestone Handling	11.59	6.46	6.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Unpaved Roads	163.57	41.69	4.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Paved Roads	87.75	17.55	4.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Total (Fugitive + Non-Fugitive Emissions)	**197671.34**	**45637.15**	**45548.51**	**170830.07**	**17512.20**	**81.66**	**823.73**	**7402607.02**	**1.91E+07**	**1.67E+07**	**HCl**

Controlled Potential to Emit (ton/yr)											
Emission Unit/ID	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_x**	**VOC**	**CO**	**GHGs/CO_2e**	**Total HAPs**	**Worst Single HAP**	
Coal fired Boiler 1	324.40	74.61	74.61	1054.17	3594.27	16.34	163.38	7,361,482	3930864.03	3434818.23	HCl
Coal fired Boiler 2	324.40	74.61	74.61	1054.17	3594.27	16.34	163.38		3930864.03	3434818.23	HCl
Coal fired Boiler 3	324.40	74.61	74.61	1054.17	3594.27	16.34	163.38		3930864.03	3434818.23	HCl
Coal fired Boiler 4	603.89	138.89	138.89	1962.38	6690.91	30.41	304.13		7317492.61	6394079.47	HCl
Emergency Rolling Mill Boiler	0.64	2.58	2.58	0.20	33.92	1.87	28.50	40,956	0.64	0.61	Hexane
Rail Car Dumper/211	23.59	11.16	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Unit #1 Pneumatic Conveyor / Separator	9.20	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.01	0.00	Manganese
Unit #2 Pneumatic Conveyor / Separator	9.20	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.01	0.00	Manganese
Unit #3 Pneumatic Conveyor / Separator	9.20	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.01	0.00	Manganese
Unit #4 Pneumatic Conveyor / Separator	19.71	19.71	19.71	0.00	0.00	0.00	0.00	0.00	0.02	0.01	Manganese
Unit #1 - #3 Intermediate Fly Ash Silo	27.59	27.59	27.59	0.00	0.00	0.00	0.00	0.00	0.03	0.01	Manganese
Unit #4 Intermediate Fly Ash Silo	19.71	19.71	19.71	0.00	0.00	0.00	0.00	0.00	0.02	0.01	Manganese
Flyash Storage/Loadout Silo	47.30	47.30	47.30	0.00	0.00	0.00	0.00	0.00	0.05	0.01	Manganese
Dewatered Gypsum Handling	47.30	47.30	47.30	0.00	0.00	0.00	0.00	0.00	0.05	0.01	Manganese
Diesel Firepumps	0.32	0.32	0.32	0.30	4.54	0.37	0.98	169.04	3.97E-03	1.21E-03	Formaldehyde
Spud and Truck Hoppers (worst case coal)	21.64	19.93	19.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Flyash Storage Silo and Gypsum Slurry Vent	8.26	9.10	9.10	0.00	0.00	0.00	0.00	0.00	1.54E-04	1.30E-04	Lead
Total Non-Fugtive Emissions	**1790.86**	**566.01**	**556.54**	**5125.39**	**17512.20**	**81.66**	**823.73**	**7402607.02**	**19110085.55**	**16698534.2**	**HCl**
Fugitive Emissions											
Limestone Handling	7.46	4.51	4.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Unpaved Roads	53.78	13.71	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Paved Roads	38.18	7.64	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Total (Fugitive + Non-Fugitive Emissions)	**1882.81**	**587.35**	**559.78**	**5125.39**	**17512.20**	**81.66**	**823.73**	**7402607.02**	**19110085.55**	**16698534.2**	**HCl**

Limited Potential to Emit (ton/yr)											
Emission Unit/ID	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_x**	**VOC**	**CO**	**GHGs/CO_2e**	**Total HAPs**	**Worst Single HAP**	
Coal fired Boiler 1	1060.00	4490.00	4490.00	249.50	13720.00	16.34	2099.80	7,361,482	3930864.03	3434818.23	HCl
Coal fired Boiler 2						16.34			3930864.03	3434818.23	HCl
Coal fired Boiler 3						16.34			3930864.03	3434818.23	HCl
Coal fired Boiler 4	1425.00			181.20		30.41	304.13		7317492.61	6394079.47	HCl
Emergency Rolling Mill Boiler	0.64	2.58	2.58	0.20	33.92	1.87	28.50	40,956	0.64	0.61	Hexane
Rail Car Dumper/211	9.07	7.36	5.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Unit #1 Pneumatic Conveyor / Separator	0.39	0.39	0.39	0.00	0.00	0.00	0.00	0.00	4.00E-04	1.01E-04	Manganese
Unit #2 Pneumatic Conveyor / Separator	0.39	0.39	0.39	0.00	0.00	0.00	0.00	0.00	4.00E-04	1.01E-04	Manganese
Unit #3 Pneumatic Conveyor / Separator	0.39	0.39	0.39	0.00	0.00	0.00	0.00	0.00	4.00E-04	1.01E-04	Manganese
Unit #4 Pneumatic Conveyor / Separator	0.73	0.73	0.73	0.00	0.00	0.00	0.00	0.00	7.46E-04	1.89E-04	Manganese
Unit #1 - #3 Intermediate Fly Ash Silo	0.49	0.49	0.49	0.00	0.00	0.00	0.00	0.00	5.00E-04	1.26E-04	Manganese
Unit #4 Intermediate Fly Ash Silo	0.42	0.42	0.42	0.00	0.00	0.00	0.00	0.00	4.33E-04	1.10E-04	Manganese
Flyash Storage/Loadout Silo	2.40	2.40	2.40	0.00	0.00	0.00	0.00	0.00	2.45E-03	6.20E-04	Manganese
Dewatered Gypsum Handling	2.06	1.96	1.96	0.00	0.00	0.00	0.00	0.00	2.11E-03	5.34E-04	Manganese
Diesel Firepumps	0.32	0.32	0.32	0.30	4.54	0.37	0.98	169.04	3.97E-03	1.21E-03	Formaldehyde
Spud and Truck Hoppers (worst case coal)	41.30	41.30	41.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Flyash Storage Silo and Gypsum Slurry Vent	8.26	9.10	9.10	0.00	0.00	0.00	0.00	0.00	1.54E-04	1.30E-04	Lead
Total Non-Fugtive Emissions	**2502.30**	**4507.43**	**4505.70**	**431.20**	**13758.47**	**81.66**	**2433.41**	**7402607.02**	**19110085.36**	**16698534.2**	**HCl**
Fugitive Emissions											
Limestone Handling	7.46	4.51	4.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Unpaved Roads	53.78	13.71	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Paved Roads	38.18	7.64	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Total (Fugitive + Non-Fugitive Emissions)	**2594.26**	**4528.77**	**4508.95**	**431.20**	**13758.47**	**81.66**	**2433.41**	**7402607.02**	**19110085.36**	**16698534.2**	**HCl**

Appendix A: Emission Calculations
Coal Combustion: Bituminous Coal for Boilers (Pulverized Dry Bottom)
Boiler No. 1

Company Name: **Alcoa Power Generating, Inc. - Warrick Power Plant**
Address City IN Zip: **4700 Darlington Road, Newburgh, IN 47630**
Permit Number: **173-33817-00002**
Reviewer: **Deena Patton**

Heat Input Capacity MMBtu/hr	Heat Content of Coal Btu/lb of Coal	Potential Throughput tons/year
1589	10650	653504.23

	Weight % Sulfur in Fuel	
S =	2.83	%
A =	12.41	%

ESP Control Efficiency	0.992	%
Wet Scrubber Efficiency	0.97	%

	Pollutant						
	PM*	PM10*	PM2.5	SO2	Nox	VOC	CO
Emission Factor in lb/ton	124.1 (10A)	28.54 (2.3A)	28.54 (2.3A)	107.5 (38S)	11.0	0.05	0.5
Potential Emission in tons/yr #1	40549.94	9326.49	9326.49	35138.92	3594.27	16.34	163.38
Potential Emission in tons/yr	**40549.94**	**9326.49**	**9326.49**	**35138.92**	**3594.27**	**16.34**	**163.38**
Controlled Emission in tons per year	**324.40**	**74.61**	**74.61**	**1054.17**			
Equivalent Controlled Emissions in lb/mmBtu	0.05						

Methodology

Emission Factors are from AP 42 (Update 9/98), Tables 1.1-4 and 1.1-3 (SCC 1-01-002-02/22, 1-02-002-02/22-06/2.

Potential Throughput (tons/year) = Heat Input Capacity (MMBtu/hr) x 10^6 Btu/MMBtu / Heat Content of Coal (Btu/lb) / 2,000 lb/ton x 8,760 hrs/yr.

Heat Content of theCoal is taken from the application.
Additional emission factors for commerical/institutional and electric generation boilers are available in AP-42, Chapter 1.1.
Several HAPS emission factors are also available in AP-42, Chapter 1.1, depending on the type of boiler.
Emission (tons/yr) = Throughput tons per year x Emission Factor (lb/ton) / 2,000 lb/ton.
Emissions (lb/MMBtu) = 10^6 Btu/MMBtu / Heat Content of Coal (Btu/lb) / 2,000 lb/ton x Emission Factor (lb/ton).

Appendix A: Emissions Calculations
Coal Burning - HAP Emissions Boiler Unit 1

Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
Address City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
Permit Number: 173-33817-00002
Reviewer: Deena Patton

Boiler Emission Unit:	1
Total Maximum Heat Input Capacity (MMBtu/hr)	1589
Maximum Coal Input Capacity (tons/hr)	653504.23

Pollutant	Emission Factor (lbs/ton of Coal)	PTE of HAP (tons/year)
Antimony	1.8E-05	51.522
Arsenic	4.1E-04	1173.563
Beryllium	2.1E-05	60.109
Cadmium	5.1E-05	145.980
Chromium	2.6E-04	744.211
Chromium (VI)	7.09E-05	202.941
Cobalt	1.00E-04	286.235
Lead	4.2E-04	1202.186
Magnesium	1.1E-02	31485.834
Manganese	4.9E-04	1402.551
Mercury	8.3E-05	237.575
Nickel	2.8E-04	801.458
Selenium	1.3E-03	3721.053
Hydrogen Fluoride	1.50E-01	429352.279
Hydrogen Chloride	1.20E+00	3434818.233
Acetaldehyde	5.70E-04	1631.539
Acetophenone	1.50E-05	42.935
Acrolein	2.90E-04	830.081
Benzene	1.30E-03	3721.053
Benzyl Chloride	7.00E-04	2003.644
DEHP	7.30E-05	208.951
Bromoform	3.90E-05	111.632
Carbon Disulfide	1.30E-04	372.105
2-Chloroacetophenone	7.00E-06	20.036
Chlorobenzene	2.20E-05	62.972
Chloroform	5.90E-05	168.879
Cumene	5.30E-06	15.170
Cyanide	2.50E-03	7155.871
2,4-Dinitrotoluene	2.80E-07	0.801
Dimethyl Sulfate	4.80E-05	137.393
Ethyl Benzene	9.40E-05	269.061
Ethyl Chloride	4.20E-05	120.219
Ethylene Dichloride	4.00E-05	114.494
Ethylene Dibromide	1.20E-06	3.435
Formaldehyde	2.40E-04	686.964
Hexane	6.70E-05	191.777
Isophorone	5.80E-04	1660.162
Methyl Bromide	1.60E-04	457.976
Methyl Chloride	5.30E-04	1517.045
Methyl Hydrazine	1.70E-04	486.599
Methyl Methacrylate	2.00E-05	57.247
Methyl Tert Butyl Ether	3.50E-05	100.182
Methylene Chloride	2.90E-04	830.081
Phenol	1.60E-05	45.798
Propionaldehyde	3.80E-04	1087.692
Tetrachloroethylene	4.30E-05	123.081
Toluene	2.40E-04	686.964
1,1,1-Trichloroethane	2.00E-05	57.247
Styrene	2.50E-05	71.559
Xylenes	3.70E-05	105.907
Vinyl Acetate	7.60E-06	21.754
Total		**3930864.034**

Note: Emission factors from, AP-42, Tables 1.1-13, 1.1-14, 1.1-15, and 1.1-18 for Coal Combustion (09/98).

Methodology

PTE of HAP (tons/year) = Total Maximum Heat Input (MMBtu/hr) / 23.686 MMBtu/ton * Emission Factor (lb/ton) * 8,760 hrs/yr * 1 ton/2,000 lb

Appendix A: Emission Calculations
Coal Combustion: Bituminous Coal for Boilers (Pulverized Dry Bottom)
Boiler No. 2
Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
s City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
rmit Number: 173-33817-00002
Reviewer: Deena Patton

Heat Input Capacity MMBtu/hr	Heat Content of Coal Btu/lb of Coal	Potential Throughput tons/year
1589	10650	653504.23

Weight % Sulfur in Fuel		
S =	2.83	%
A =	12.41	%

ESP Control Efficiency	0.992	%
Wet Scrubber Efficiency	0.97	%

	Pollutant					
	PM*	PM10*	SO2	Nox	VOC	CO
Emission Factor in lb/ton	124.1 (10A)	28.54 (2.3A)	107.5 (38S)	11.0	0.05	0.5
Potential Emission in tons/yr #1	40549.94	9326.49	35138.92	3594.27	16.34	163.38
Potential Emission in tons/yr	**40549.94**	**9326.49**	**35138.92**	**3594.27**	**16.34**	**163.38**
Controlled Emission in tons per year	**324.40**	**74.61**	**1054.17**			
Equivalent Controlled Emissions in lb/mmBtu	0.05					

Methodology

Emission Factors are from AP 42 (Update 9/98), Tables 1.1-4 and 1.1-3 (SCC 1-01-002-02/22, 1-02-002-02/22-06/2.

Potential Throughput (tons/year) = Heat Input Capacity (MMBtu/hr) x 10^6 Btu/MMBtu / Heat Content of Coal (Btu/lb) / 2,000 lb/ton x 8,760 hrs/yr.

Heat Content of theCoal is taken from the application.
Additional emission factors for commerical/institutional and electric generation boilers are available in AP-42, Chapter 1.1.
Several HAPS emission factors are also available in AP-42, Chapter 1.1, depending on the type of boiler.
Emission (tons/yr) = Throughput tons per year x Emission Factor (lb/ton) / 2,000 lb/ton.
Emissions (lb/MMBtu) = 10^6 Btu/MMBtu / Heat Content of Coal (Btu/lb) / 2,000 lb/ton x Emission Factor (lb/ton).

Appendix A: Emissions Calculations
Coal Burning - HAP Emissions Boiler Unit 2

Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
Address City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
Permit Number: 173-33817-00002
Reviewer: Deena Patton

Boiler Emission Unit:	**2**
Total Maximum Heat Input Capacity (MMBtu/hr)	**1589**
Maximum Coal Input Capacity (tons/hr)	**653504.23**

Pollutant	Emission Factor (lbs/ton of Coal)	PTE of HAP (tons/year)
Antimony	1.8E-05	51.522
Arsenic	4.1E-04	1173.563
Beryllium	2.1E-05	60.109
Cadmium	5.1E-05	145.980
Chromium	2.6E-04	744.211
Chromium (VI)	7.09E-05	202.941
Cobalt	1.00E-04	286.235
Lead	4.2E-04	1202.186
Magnesium	1.1E-02	31485.834
Manganese	4.9E-04	1402.551
Mercury	8.3E-05	237.575
Nickel	2.8E-04	801.458
Selenium	1.3E-03	3721.053
Hydrogen Fluoride	1.50E-01	429352.279
Hydrogen Chloride	1.20E+00	3434818.233
Acetaldehyde	5.70E-04	1631.539
Acetophenone	1.50E-05	42.935
Acrolein	2.90E-04	830.081
Benzene	1.30E-03	3721.053
Benzyl Chloride	7.00E-04	2003.644
DEHP	7.30E-05	208.951
Bromoform	3.90E-05	111.632
Carbon Disulfide	1.30E-04	372.105
2-Chloroacetophenone	7.00E-06	20.036
Chlorobenzene	2.20E-05	62.972
Chloroform	5.90E-05	168.879
Cumene	5.30E-06	15.170
Cyanide	2.50E-03	7155.871
2,4-Dinitrotoluene	2.80E-07	0.801
Dimethyl Sulfate	4.80E-05	137.393
Ethyl Benzene	9.40E-05	269.061
Ethyl Chloride	4.20E-05	120.219
Ethylene Dichloride	4.00E-05	114.494
Ethylene Dibromide	1.20E-06	3.435
Formaldehyde	2.40E-04	686.964
Hexane	6.70E-05	191.777
Isophorone	5.80E-04	1660.162
Methyl Bromide	1.60E-04	457.976
Methyl Chloride	5.30E-04	1517.045
Methyl Hydrazine	1.70E-04	486.599
Methyl Methacrylate	2.00E-05	57.247
Methyl Tert Butyl Ether	3.50E-05	100.182
Methylene Chloride	2.90E-04	830.081
Phenol	1.60E-05	45.798
Propionaldehyde	3.80E-04	1087.692
Tetrachloroethylene	4.30E-05	123.081
Toluene	2.40E-04	686.964
1,1,1-Trichloroethane	2.00E-05	57.247
Styrene	2.50E-05	71.559
Xylenes	3.70E-05	105.907
Vinyl Acetate	7.60E-06	21.754
Total		**3930864.034**

Note: Emission factors from, AP-42, Tables 1.1-13, 1.1-14, 1.1-15, and 1.1-18 for Coal Combustion (09/98).

Methodology

PTE of HAP (tons/year) = Total Maximum Heat Input (MMBtu/hr) / 23.686 MMBtu/ton * Emission Factor (lb/ton) * 8,760 hrs/yr * 1 ton/2,000 lb

Appendix A: Emission Calculations
Coal Combustion: Bituminous Coal for Boilers (Pulverized Dry Bottom)
Boiler No. 3
Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
s City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
rmit Number: 173-33817-00002
Reviewer: Deena Patton

Heat Input Capacity MMBtu/hr	Heat Content of Coal Btu/lb of Coal	Potential Throughput tons/year	Weight % Sulfur in Fuel		
1589	10650	653504.23	S =	2.83	%
			A =	12.41	%
			ESP Control Efficiency	0.992	%
			Wet Scrubber Efficiency	0.97	%

	Pollutant					
	PM*	PM10*	SO2	Nox	VOC	CO
Emission Factor in lb/ton	124.1 (10A)	28.54 (2.3A)	107.5 (38S)	11.0	0.05	0.5
Potential Emission in tons/yr #1	40549.94	9326.49	35138.92	3594.27	16.34	163.38
Potential Emission in tons/yr	**40549.94**	**9326.49**	**35138.92**	**3594.27**	**16.34**	**163.38**
Controlled Emission in tons per year	**324.40**	**74.61**	**1054.17**			
Equivalent Controlled Emissions in lb/mmBtu	0.05					

Methodology

Emission Factors are from AP 42 (Update 9/98), Tables 1.1-4 and 1.1-3 (SCC 1-01-002-02/22, 1-02-002-02/22-06/2.

Potential Throughput (tons/year) = Heat Input Capacity (MMBtu/hr) x 10^6 Btu/MMBtu / Heat Content of Coal (Btu/lb) / 2,000 lb/ton x 8,760 hrs/yr.

Heat Content of theCoal is taken from the application.
Additional emission factors for commerical/institutional and electric generation boilers are available in AP-42, Chapter 1.1.
Several HAPS emission factors are also available in AP-42, Chapter 1.1, depending on the type of boiler.
Emission (tons/yr) = Throughput tons per year x Emission Factor (lb/ton) / 2,000 lb/ton.
Emissions (lb/MMBtu) = 10^6 Btu/MMBtu / Heat Content of Coal (Btu/lb) / 2,000 lb/ton x Emission Factor (lb/ton).

Appendix A: Emissions Calculations
Coal Burning - HAP Emissions Boiler Unit 3

Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
Address City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
Permit Number: 173-33817-00002
Reviewer: Deena Patton

Boiler Emission Unit:	**3**
Total Maximum Heat Input Capacity (MMBtu/hr)	**1589**
Maximum Coal Input Capacity (tons/hr)	**653504.23**

Pollutant	Emission Factor (lbs/ton of Coal)	PTE of HAP (tons/year)
Antimony	1.8E-05	51.522
Arsenic	4.1E-04	1173.563
Beryllium	2.1E-05	60.109
Cadmium	5.1E-05	145.980
Chromium	2.6E-04	744.211
Chromium (VI)	7.09E-05	202.941
Cobalt	1.00E-04	286.235
Lead	4.2E-04	1202.186
Magnesium	1.1E-02	31485.834
Manganese	4.9E-04	1402.551
Mercury	8.3E-05	237.575
Nickel	2.8E-04	801.458
Selenium	1.3E-03	3721.053
Hydrogen Fluoride	1.50E-01	429352.279
Hydrogen Chloride	1.20E+00	3434818.233
Acetaldehyde	5.70E-04	1631.539
Acetophenone	1.50E-05	42.935
Acrolein	2.90E-04	830.081
Benzene	1.30E-03	3721.053
Benzyl Chloride	7.00E-04	2003.644
DEHP	7.30E-05	208.951
Bromoform	3.90E-05	111.632
Carbon Disulfide	1.30E-04	372.105
2-Chloroacetophenone	7.00E-06	20.036
Chlorobenzene	2.20E-05	62.972
Chloroform	5.90E-05	168.879
Cumene	5.30E-06	15.170
Cyanide	2.50E-03	7155.871
2,4-Dinitrotoluene	2.80E-07	0.801
Dimethyl Sulfate	4.80E-05	137.393
Ethyl Benzene	9.40E-05	269.061
Ethyl Chloride	4.20E-05	120.219
Ethylene Dichloride	4.00E-05	114.494
Ethylene Dibromide	1.20E-06	3.435
Formaldehyde	2.40E-04	686.964
Hexane	6.70E-05	191.777
Isophorone	5.80E-04	1660.162
Methyl Bromide	1.60E-04	457.976
Methyl Chloride	5.30E-04	1517.045
Methyl Hydrazine	1.70E-04	486.599
Methyl Methacrylate	2.00E-05	57.247
Methyl Tert Butyl Ether	3.50E-05	100.182
Methylene Chloride	2.90E-04	830.081
Phenol	1.60E-05	45.798
Propionaldehyde	3.80E-04	1087.692
Tetrachloroethylene	4.30E-05	123.081
Toluene	2.40E-04	686.964
1,1,1-Trichloroethane	2.00E-05	57.247
Styrene	2.50E-05	71.559
Xylenes	3.70E-05	105.907
Vinyl Acetate	7.60E-06	21.754
Total		**3930864.034**

Note: Emission factors from, AP-42, Tables 1.1-13, 1.1-14, 1.1-15, and 1.1-18 for Coal Combustion (09/98).

Methodology

PTE of HAP (tons/year) = Total Maximum Heat Input (MMBtu/hr) / 23.686 MMBtu/ton * Emission Factor (lb/ton) * 8,760 hrs/yr * 1 ton/2,000 lb

Appendix A: Emission Calculations
Coal Combustion: Bituminous Coal for Boilers (Pulverized Dry Bottom)
Boiler No. 4
Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
s City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
rmit Number: 173-33817-00002
Reviewer: Deena Patton

Heat Input Capacity MMBtu/hr	Heat Content of Coal Btu/lb of Coal	Potential Throughput tons/year	Weight % Sulfur in Fuel		
2958	10650	1216529.58	S =	2.83	%
			A =	12.41	%
			ESP Control Efficiency	0.992	%
			Wet Scrubber Efficiency	0.97	%

	Pollutant					
	PM*	PM10*	SO2	Nox	VOC	CO
Emission Factor in lb/ton	124.1 (10A)	28.54 (2.3A)	107.5 (38S)	11.0	0.05	0.5
Potential Emission in tons/yr #1	75485.66	17361.70	65412.80	6690.91	30.41	304.13
Potential Emission in tons/yr	**75485.66**	**17361.70**	**65412.80**	**6690.91**	**30.41**	**304.13**
Controlled Emission in tons per year	**603.89**	**138.89**	**1962.38**			
Equivalent Controlled Emissions in lb/mmBtu	0.05					

Methodology

Emission Factors are from AP 42 (Update 9/98), Tables 1.1-4 and 1.1-3 (SCC 1-01-002-02/22, 1-02-002-02/22-06/2.

Potential Throughput (tons/year) = Heat Input Capacity (MMBtu/hr) x 10^6 Btu/MMBtu / Heat Content of Coal (Btu/lb) / 2,000 lb/ton x 8,760 hrs/yr.

Heat Content of theCoal is taken from the application.
Additional emission factors for commerical/institutional and electric generation boilers are available in AP-42, Chapter 1.1.
Several HAPS emission factors are also available in AP-42, Chapter 1.1, depending on the type of boiler.
Emission (tons/yr) = Throughput tons per year x Emission Factor (lb/ton) / 2,000 lb/ton.
Emissions (lb/MMBtu) = 10^6 Btu/MMBtu / Heat Content of Coal (Btu/lb) / 2,000 lb/ton x Emission Factor (lb/ton).

Appendix A: Emissions Calculations
Coal Burning - HAP Emissions Boiler Unit 4

Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
Address City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
Permit Number: 173-33817-00002
Reviewer: Deena Patton

Boiler Emission Unit:	**4**
Total Maximum Heat Input Capacity (MMBtu/hr)	**2958**
Maximum Coal Input Capacity (tons/hr)	**1216529.58**

Pollutant	Emission Factor (lbs/ton of Coal)	PTE of HAP (tons/year)
Antimony	1.8E-05	95.911
Arsenic	4.1E-04	2184.644
Beryllium	2.1E-05	111.896
Cadmium	5.1E-05	271.748
Chromium	2.6E-04	1385.384
Chromium (VI)	7.09E-05	377.784
Cobalt	1.00E-04	532.840
Lead	4.2E-04	2237.928
Magnesium	1.1E-02	58612.395
Manganese	4.9E-04	2610.916
Mercury	8.3E-05	442.257
Nickel	2.8E-04	1491.952
Selenium	1.3E-03	6926.919
Hydrogen Fluoride	1.50E-01	799259.934
Hydrogen Chloride	1.20E+00	6394079.472
Acetaldehyde	5.70E-04	3037.188
Acetophenone	1.50E-05	79.926
Acrolein	2.90E-04	1545.236
Benzene	1.30E-03	6926.919
Benzyl Chloride	7.00E-04	3729.880
DEHP	7.30E-05	388.973
Bromoform	3.90E-05	207.808
Carbon Disulfide	1.30E-04	692.692
2-Chloroacetophenone	7.00E-06	37.299
Chlorobenzene	2.20E-05	117.225
Chloroform	5.90E-05	314.376
Cumene	5.30E-06	28.241
Cyanide	2.50E-03	13320.999
2,4-Dinitrotoluene	2.80E-07	1.492
Dimethyl Sulfate	4.80E-05	255.763
Ethyl Benzene	9.40E-05	500.870
Ethyl Chloride	4.20E-05	223.793
Ethylene Dichloride	4.00E-05	213.136
Ethylene Dibromide	1.20E-06	6.394
Formaldehyde	2.40E-04	1278.816
Hexane	6.70E-05	357.003
Isophorone	5.80E-04	3090.472
Methyl Bromide	1.60E-04	852.544
Methyl Chloride	5.30E-04	2824.052
Methyl Hydrazine	1.70E-04	905.828
Methyl Methacrylate	2.00E-05	106.568
Methyl Tert Butyl Ether	3.50E-05	186.494
Methylene Chloride	2.90E-04	1545.236
Phenol	1.60E-05	85.254
Propionaldehyde	3.80E-04	2024.792
Tetrachloroethylene	4.30E-05	229.121
Toluene	2.40E-04	1278.816
1,1,1-Trichloroethane	2.00E-05	106.568
Styrene	2.50E-05	133.210
Xylenes	3.70E-05	197.151
Vinyl Acetate	7.60E-06	40.496
Total		**7317492.608**

Note: Emission factors from, AP-42, Tables 1.1-13, 1.1-14, 1.1-15, and 1.1-18 for Coal Combustion (09/98).

Methodology

PTE of HAP (tons/year) = Total Maximum Heat Input (MMBtu/hr) / 23.686 MMBtu/ton * Emission Factor (lb/ton) * 8,760 hrs/yr * 1 ton/2,000 lb

Appendix A: Emissions Calculations
Summary - GHG Emissions from Boiler Unit 1 through Boiler Unit 4

Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
Address City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
Permit Number: 173-33817-00002
Reviewer: Deena Patton

Boiler/Unit ID	Maximum Heat Input Capacity (MMBtu/hr)	Coal Heat Content (Btu/lb)	Coal Throughput (tons/year)
Boiler Unit 1	1589	11,113	626,277
Boiler Unit 2	1589	11,113	626,277
Boiler Unit 3	1589	11,113	626,277
Boiler Unit 4	2958	11,113	1,165,845

Coal Combustion							
Emission Unit	Coal Throughput (ton/yr)	CO_2 Emission Factor (lb/ton)	CH_4 Emission Factor (lb/ton)	N_2O Emission Factor (lb/ton)	CO_2 Emissions (ton/yr)	CH_4 Emissions (ton/yr)	N_2O Emissions (ton/yr)
Boiler Unit 2	626,277	4,810	0.04	0.08	1,506,197	13	25
Boiler Unit 3	626,277	4,810	0.04	0.08	1,506,197	13	25
Boiler Unit 4	626,277	4,810	0.04	0.08	1,506,197	13	25
Boiler Unit 5	1,165,845	4,810	0.04	0.08	2,803,858	23	47

Greenhouse Gas Emissions - CO_2e Calculation							
	Worst Case Emissions			Global Warming Potential			CO_2e (TPY)
	CO_2 Emissions (ton/yr)	CH_4 Emissions (ton/yr)	N_2O Emissions (ton/yr)	CO_2 (Unitless)	CH_4 (Unitless)	N_2O Emissions (Unitless)	
Boiler Unit 2	1,506,197	13	25	1	21	310	1,514,226
Boiler Unit 3	1,506,197	13	25	1	21	310	1,514,226
Boiler Unit 4	1,506,197	13	25	1	21	310	1,514,226
Boiler Unit 5	2,803,858	23	47	1	21	310	2,818,804

TOTAL	7,361,482

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **Alcoa Power Generating, Inc. - Warrick Power Plant**
Address City IN Zip: **4700 Darlington Road, Newburgh, IN 47630**
Permit Number: **173-33817-00002**
Reviewer: **Deena Patton**

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
79.0	1020	678.5

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.6	2.6	2.6	0.2	33.9	1.9	28.5

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	7.124E-04	4.071E-04	2.544E-02	6.106E-01	1.153E-03	**6.383E-01**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	1.696E-04	3.732E-04	4.749E-04	1.289E-04	7.124E-04	**1.859E-03**
					Total HAPs	**6.402E-01**
					Worst HAP	**6.106E-01**

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	40,708	0.8	0.7
Summed Potential Emissions in tons/yr	40,710		
CO2e Total in tons/yr	40,956		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Calculations
Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
Address City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
Permit Number: 173-33817-00002
Reviewer: Deena Patton

PARTICULATE EMISSIONS - RAIL CAR COAL DUMP

POTENTIAL EMISSIONS

Emission Unit	Process Description		Emiss. Factor (lb/ton)			Uncontrolled PTE (ton/yr)			Control Eff.	Controlled PTE (tons)		
		Rate (ton/yr)	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$		PM	PM_{10}	$PM_{2.5}$
211	Rail Car Coal Bottom Drop	3,707,969	0.0509	0.0241	0.0036	94.4	44.6	6.8	(See Table)	**23.6**	**11.2**	**1.7**

Control Eff.	
PM	90%
PM10	90%
$PM_{2.5}$	90%

LIMITED EMISSIONS

Emission Unit	Process Description	Period: 1460 (hr/yr)	No Control PTE (lb/hr) PM	PM_{10}	$PM_{2.5}$
211	Rail Car Coal Bottom Drop	No water suppression: (2 mo./yr)	**21.5**	**10.2**	**1.54**

	PTE (ton/yr)		
When operated with no water suppression: (2 mo./yr)	15.73	7.44	1.13

Emission Unit	Process Description	Period 7300 (hr/yr)	With Control PTE (lb/hr) PM	PM_{10}	$PM_{2.5}$
211	Rail Car Coal Bottom Drop	Employing water suppression: (10 mo./yr)	**2.49**	**2.02**	**1.54**

	PTE (ton/yr)		
When operated with the employment of water suppression: (10 mo./yr)	9.07	7.36	5.63

	PTE (ton/yr)		
TOTAL LIMITED EMISSIONS =	**24.8**	**14.8**	**6.8**

Notes

Coal nominal throughput capacity = 1,300 ton/hr = 11,390,000 ton/yr; however, previoulsy estsblished limt for maximum coal throughput to transfer station = 3,707,969 ton/yr
Two months = 1460 hr/yr
Control device: top and side enclosure with wet suppression.
Wet suppression is employed during only 10 of 12 months per year.

Methodology

Wet suppression control efficiencies per AP 42 (9/90) Appendix B.2, Table B.2-3. (Upper factor accepted for $PM_{10}/PM_{2.5}$, due to partial enclosure)
Unrestricted emissions = (tons material) x (Ef)(lb/ton) x (ton/2000 lb)
Controlled emissions = (2 mo./12 mo.) x (Unrestricted Emsissions) + (10 mo./12 mo.) x (Unrestricted emissions) x (1-CE)
Coal dump emission factors: AP-42 (11/06), calculated in accordance with 13.2.4, Aggregate Handling and Storage Piles, as follows:

E(PM) =	0.0509 lb/ton
$E(PM_{10})$ =	0.0241 lb/ton
$E(PM_{2.5})$ =	0.0036 lb/ton

$$E = k(0.0032)((U/5)^{1.3}/(M/2)^{1.4})$$

where:	$k_{(PM)}$ =	0.74	constant for PM
	$k_{(PM10)}$ =	0.35	constant for PM_{10}
	$k_{(PM2.5)}$ =	0.053	constsnt for $PM_{2.5}$
	U =	4	mean wind speed (conservative value, as partial enclosure)
	M =	11	material moisture content

Appendix A: Emission Calculations
Summary of Emissions: Potential to emit
Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
Address City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
Permit Number: 173-33817-00002
Reviewer: Deena Patton

				Uncontrolled PTE														
				Pollutant			HAP's (tpy)											
Unit Description	stack	throughputt: (ton/hr)	E_f (lb./ton)	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	An (6.15ppm)	Ar (86.5ppm)	Be (27.7ppm)	Cd (2.82ppm)	Co (81.2ppm)	Cr (133ppm)	Pb (154ppm)	Mn (259ppm)	Hg (91.6ppb)	Ni (237ppm)	Se (37.0ppm)	Total HAP's
Unit #1 Pneumatic Conveyor / Separator	283A1	14.00	0.15	9.20	9.20	9.20	5.7E-05	8.0E-04	2.5E-04	2.6E-05	7.5E-04	1.2E-03	1.4E-03	2.4E-03	8.4E-07	2.2E-03	3.4E-04	9.4E-03
Unit #2 Pneumatic Conveyor / Separator	283A2	14.00	0.15	9.20	9.20	9.20	5.7E-05	8.0E-04	2.5E-04	2.6E-05	7.5E-04	1.2E-03	1.4E-03	2.4E-03	8.4E-07	2.2E-03	3.4E-04	9.4E-03
Unit #3 Pneumatic Conveyor / Separator	283A3	14.00	0.15	9.20	9.20	9.20	5.7E-05	8.0E-04	2.5E-04	2.6E-05	7.5E-04	1.2E-03	1.4E-03	2.4E-03	8.4E-07	2.2E-03	3.4E-04	9.4E-03
Unit #4 Pneumatic Conveyor / Separator	283B1	30.00	0.15	19.71	19.71	19.71	1.2E-04	1.7E-03	5.5E-04	5.6E-05	1.6E-03	2.6E-03	3.0E-03	5.1E-03	1.8E-06	4.7E-03	7.3E-04	2.0E-02
Unit #1 - #3 Intermediate Fly Ash Silo	283A	42.00	0.15	27.59	27.59	27.59	1.7E-04	2.4E-03	7.6E-04	7.8E-05	2.2E-03	3.7E-03	4.2E-03	7.1E-03	2.5E-06	6.5E-03	1.0E-03	2.8E-02
Unit #4 Intermediate Fly Ash Silo	283B	30.00	0.15	19.71	19.71	19.71	1.2E-04	1.7E-03	5.5E-04	5.6E-05	1.6E-03	2.6E-03	3.0E-03	5.1E-03	1.8E-06	4.7E-03	7.3E-04	2.0E-02
Flyash Storage/Loadout Silo	283C	72.00	0.15	47.30	47.30	47.30	2.9E-04	4.1E-03	1.3E-03	1.3E-04	3.8E-03	6.3E-03	7.3E-03	1.2E-02	4.3E-06	1.1E-02	1.8E-03	4.8E-02
Dewatered Gypsum Handling	-	72.00	0.15	47.30	47.30	47.30	2.9E-04	4.1E-03	1.3E-03	1.3E-04	3.8E-03	6.3E-03	7.3E-03	1.2E-02	4.3E-06	1.1E-02	1.8E-03	4.8E-02
	Total Uncontrolled △ PTE			**189**	**189**	**189**	**0.001**	**0.016**	**0.005**	**0.001**	**0.015**	**0.025**	**0.029**	**0.049**	**0.000**	**0.045**	**0.007**	**0.194**

Note - Source for emission factor E_f : SCC 3-05-015-04

					PTE - Limited														
					Pollutant			HAP's (tpy)											
	stack	cfm	gr/cfm	gr/lb	PM **(tpy)**	PM_{10} **(tpy)**	$PM_{2.5}$ **(tpy)**	An (6.15ppm)	Ar (86.5ppm)	Be (27.7ppm)	Cd (2.82ppm)	Co (81.2ppm)	Cr (133ppm)	Pb (154.0ppm)	Mn (259.0ppm)	Hg (91.6ppb)	Ni (237.0ppm)	Se (37.0ppm)	Total HAP's
Unit #1 Pneumatic Conveyor / Separator	283A1	1156	0.009	7000	0.39	0.39	0.39	2.4E-06	3.4E-05	1.1E-05	1.1E-06	3.2E-05	5.2E-05	6.0E-05	1.0E-04	3.6E-08	9.3E-05	1.4E-05	4.0E-04
Unit #2 Pneumatic Conveyor / Separator	283A2	1156	0.009	7000	0.39	0.39	0.39	2.4E-06	3.4E-05	1.1E-05	1.1E-06	3.2E-05	5.2E-05	6.0E-05	1.0E-04	3.6E-08	9.3E-05	1.4E-05	4.0E-04
Unit #3 Pneumatic Conveyor / Separator	283A3	1156	0.009	7000	0.39	0.39	0.39	2.4E-06	3.4E-05	1.1E-05	1.1E-06	3.2E-05	5.2E-05	6.0E-05	1.0E-04	3.6E-08	9.3E-05	1.4E-05	4.0E-04
Unit #4 Pneumatic Conveyor / Separator	283B1	2424	0.008	7000	0.73	0.73	0.73	4.5E-06	6.3E-05	2.0E-05	2.1E-06	5.9E-05	9.7E-05	1.1E-04	1.9E-04	6.7E-08	1.7E-04	2.7E-05	7.5E-04
Unit #1 - #3 Intermediate Fly Ash Silo	283A	1444	0.009	7000	0.49	0.49	0.49	3.0E-06	4.2E-05	1.4E-05	1.4E-06	4.0E-05	6.5E-05	7.5E-05	1.3E-04	4.5E-08	1.2E-04	1.8E-05	5.0E-04
Unit #4 Intermediate Fly Ash Silo	283B	1252	0.009	7000	0.42	0.42	0.42	2.6E-06	3.7E-05	1.2E-05	1.2E-06	3.4E-05	5.6E-05	6.5E-05	1.1E-04	3.9E-08	1.0E-04	1.6E-05	4.3E-04
Flyash Storage/Loadout Silo	283C	7090	0.009	7000	2.40	2.40	2.40	1.5E-05	2.1E-04	6.6E-05	6.8E-06	1.9E-04	3.2E-04	3.7E-04	6.2E-04	2.2E-07	5.7E-04	8.9E-05	2.5E-03
Dewatered Gypsum Handling	-	0	-	-	2.06	1.96	1.96	1.3E-05	1.8E-04	5.7E-05	5.8E-06	1.7E-04	2.7E-04	3.2E-04	5.3E-04	1.9E-07	4.9E-04	7.6E-05	2.1E-03
	PTE After Issuance =				7.27	7.17	7.17	4.5E-05	6.3E-04	2.0E-04	2.0E-05	5.9E-04	9.7E-04	1.1E-03	1.9E-03	6.7E-07	1.7E-03	2.7E-04	7.4E-03

Limits	PM **lb/hr**	PM10 **lb/hr**	PM2.5 **lb/hr**
Unit #1 Pneumatic Conveyor / Separator	0.09	0.09	0.09
Unit #2 Pneumatic Conveyor / Separator	0.09	0.09	0.09
Unit #3 Pneumatic Conveyor / Separator	0.09	0.09	0.09
Unit #4 Pneumatic Conveyor / Separator	0.17	0.17	0.17
Unit #1 - #3 Intermediate Fly Ash Silo	0.11	0.11	0.11
Unit #4 Intermediate Fly Ash Silo	0.10	0.10	0.10
Flyash Storage/Loadout Silo	0.55	0.55	0.55
Dewatered Gypsum Handling	0.47	0.45	0.45

Appendix A: Emission Calculations
Limestone, Flyash and Gypsum Emissions

Company Name: **Alcoa Power Generating, Inc. - Warrick Power Plant**
Address City IN Zip: **4700 Darlington Road, Newburgh, IN 47630**
Permit Number: **173-33817-00002**
Reviewer: **Deena Patton**

1. Summary of Emissions from Limestone Handling

	Uncontrolled		Controlled	
	PM (ton/year)	PM 10 (ton/yr)	PM (ton/yr)	PM10/2.5 (ton/yr)
Flyash storage silo	0.84	0.84	0.84	0.84
gypsum slurry vent	8.26	8.26	8.26	8.26
Total	**9.10**	**9.10**	**8.26**	**9.10**

2. PTE - Flyash Handling

One storage silo equipped with bin vent filters

air flow (acfm)	loading (grain/dcsf)	PTE PM/PM10 (lb/hr)	PTE PM/PM10 tpy	PTE Lead (tpy)	PTE Beryllium (tpy)
1500	0.015	0.19	0.84	1.30E-04	2.34E-05
				Total	1.54E-04

Methodology

PTE PM/PM10 (lb/hr) = air flow (acfm) * loading (grain/dscf) * 60 (min/hr) * 1/7000 (gr/lb)

PTE PM/PM10 (tpyr) = PTE PM/PM10 (lb/hr) * 8760 hrs/yr * 1/2000 lb/ton

PTE Lead (tpy) = 154.4 lb lead / 1MM lb PM * PM tpy

PTE Beryllium (tpy) = 27.7 lb beryllium / 1MM lb PM * PM tpy

Appendix A: Emission Calculations
Limestone, Flyash and Gypsum Emissions (continued)

4. PTE - Fugitive Emissions Annual throughput limit = 350,468 tons/yr limestone

a) Batch Drop Operations - Limestone

Loading from Hopper to truck using a dust suppression spray with a flexible rubber curtain - control efficiency = 80%
Batch drop to stockpile and loading from stockpile - control efficiency = 0% 0%
Stockpile discharge conveyor - control efficiency = 90% 90%

E = k*(0.0032)* ((U/5)^1.3)/((M/2)^1.4)
= *0.0139* lb PM/ton
= *0.0066* lb PM10/ton
where k = 0.74 PM (particle size multiplier)
k= 0.35 PM10 (particle size multiplier)
U = 6.29 mile/hr mean wind speed
M = 0.7 % material moisture content

	PM (ton/yr)		PM10 (ton/yr)	
	Uncontrolled	Controlled	Uncontrolled	Controlled
Hopper to truck	2.43	0.49	1.15	0.23
drop to stockpiles	2.43	2.43	1.15	1.15
truck loading from stockpiles	2.43	2.43	1.15	1.15
truck to hopper to conveyor transfer	2.43	0.24	1.15	0.12
	9.73	5.59	4.60	2.65

Methodology
Equation for E from AP-42 Chp. 13.2.4 - Aggregate Handling and Storage Piles (11/06)

b) Limestone stockpile fugitive emissions - AP-42, Ch 12.3-5 (05/1983)

E = 1.7 * (s/1.5) [(365-p) / 235] (f/15)
= *7.1886* lb/day/acre
where s = 9 % silt content
f = 10.14 % of time that unobstructed wind speed exceeds 12 mph at the mean pile height
p = 120 number of days with >/= 0.01 in of precipitation

Storage capacity (sc) of site (acres) = 1.42

PM/PM10 = 1.86 tons/year

5. PTE - Gypsum Slurry Dewatering Exhaust Duct

air flow (acfm)	loading (grain/dcsf)	PTE PM/PM10 (lb/hr)	PTE PM/PM10 tpy
10000	0.022	1.89	8.26

Grain loading is based upon the allowable per 40 CFR 60, Subpart OOO

Methodology
PTE exhaust (PM/PM10 lb/hr) = air flow (acfm) * loading (grain/dscf) * 60 (min/hr) * 1/7000 (gr/lb)
PTE exhaust PM/PM10 (tpy) = PTE exhaust (lb/hr) *8760 hrs/yr * 1/2000 lb/ton * .5

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)

Company Name: **Alcoa Power Generating, Inc. - Warrick Power Plant**
Address City IN Zip: **4700 Darlington Road, Newburgh, IN 47630**
Permit Number: **173-33817-00002**
Reviewer: **Deena Patton**

Emission Unit ID	HP
281	465
203	121
Total	**586**

Output Horsepower Rating (hp)	586.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	293,000

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.32	0.32	0.32	0.30	4.54	0.37	0.98

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	9.57E-04	4.19E-04	2.92E-04	4.01E-05	1.21E-03	7.87E-04	9.49E-05	1.72E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**3.97E-03**

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.15E+00	4.63E-05	9.26E-06
Potential Emission in tons/yr	1.68E+02	6.78E-03	1.36E-03

Summed Potential Emissions in tons/yr	**1.68E+02**
CO2e Total in tons/yr	**1.69E+02**

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Modification

Company Name: Alcoa Power Generating, Inc. - Warrick Power Plant
Address City IN Zip: 4700 Darlington Road, Newburgh, IN 47630
Permit Number: 173-33817-00002
Reviewer: Deena Patton

- Calcined Petroleum Coke, coal, and limestone will be delivered by barge and unloaded from the barge by crane to a hopper, which will be controlled by a baghouse. From the hopper at the river, the material will be conveyed to a hopper on shore that will be used for loading trucks. The shore hopper entry and

Emission Unit	air flow (acfm)	loading (grain/dcsf)	Controlled PTE PM (lb/hr)	Controlled PTE PM tpy	Uncontrolled PM (lb/hr)	Uncontrolled PM (tpy)
Spud Barge Hopper Loading and discharge to covered conveyor to the shore truck loading hopper	65000	0.017	9.43	**9.81**	188.60	**196.14**

Emission Unit	air flow (acfm)	loading (grain/dcsf)	ntrolled PTE PM10 and PM (lb/hr)	Controlled PTE PM10 and PM2.5 (tpy)	Uncontrolled PM10 and PM2.5(lb/hr)	Uncontrolled PM10 and PM2.5 (tpy)
Spud Barge Hopper Loading and discharge to covered conveyor to the shore truck loading hopper	65000	0.017	9.43	**7.07**	188.60	**141.45**

Methodology
Controlled PTE PM/PM10 (lb/hr) = Title V Significant Permit Modification173-33009-00002 allowable emission rate
Controlled PTE PM(tpy) = Controlled PTE PM (lb/hr) *2080 hrs/yr * 1/2000 lb/ton
Controlled PTE PM10/PM2.5(tpy)= Controlled PM * 0.75
Uncontrolled PM (lb/hr) = Controlled PTE PM (lb/hr) / (1-Control Efficiency (%))
IDEM Assumed Baghouse Efficiency= 95%
Uncontrolled PM (tpy) = Controlled PTE PM tpy / (1-Control Efficiency (%))

Worst Case

3. PTE - Limestone/Coal Receiving and Transfer System (Hopper Baghouse) & Limestone Storage Silos

- Limestone will be delivered by barge and unloaded from the barge by crane to a hopper, which will be controlled by a baghouse. Suppression sprays and a flexible rubber curtain will be used when loading from the hopper unto trucks and the loads will be covered with tarps. The loaded trucks will travel by unpaved roads to an open stockpile, where front end loaders will load a hopper, which will feed a pipe conveyor. The conveyor will be controlled by skirt enclosures. The pipe conveyor will take the limestone to three (3) day silos equipped with bin vent filters.

Emission Unit	air flow (acfm)	loading (grain/dcsf)	Controlled PTE PM (lb/hr)	[1] Controlled PTE PM tpy	Uncontrolled PTE PM (lb/hr)	Uncontrolled PTE PM (tpy)
Hopper Baghouse	50000	0.022	9.43	20.65	188.57	825.94
[2] Silo Bin filters (3 total)	15300	0.022	2.89	12.64	57.70	252.74
			Total	**33.29**	246.27	**1078.68**

[1] 50% of the emissions from the baghouse will be due to coal emissions.
[2] acfm is for all 3 bin vents combined, grain loading is per bin vent, PTE is total for all 3.
PM = PM10 = PM2.5

Methodology
PTE Hopper Baghouse PM/PM10 (lb/hr) = air flow (acfm) * loading (grain/dscf) * 60 (min/hr) * 1/7000 (gr/lb)
PTE Hopper Baghouse PM/PM10 (tpy) = PTE Hopper Baghouse (lb/hr) *8760 hrs/yr * 1/2000 lb/ton * .5
PTE Storage Silos (3) PM/PM10 (lb/hr) = air flow (acfm) * loading (gr/dscf) * 60 (min/hr) * 1/7000 (gr/lb)
PTE Storage Silos (3) PM/PM10 (tpy) = PTE Storage Silos (3) PM/PM10 (lb/hr) * 8760 (days/yr) * 1/2000 (lb/ton)
IDEM assumed baghouse efficiency = 95%

Spud Barge Hopper Loading and discharge to covered conveyor to the shore truck loading hopper

	Max Throughput (ton/hr)	PM/PM10/PM2.5 Emission Factor for Loading (lb/ton) [1]	PM Emission Factor for Unloading (lb/ton) [2]	PM10/PM2.5 Emisson Factor for Unloading (lb/ton) [2]	Uncontrolled PTE PM/PM10/PM2.5 for Loading (lb/hr)	Uncontrolled PTE PM/PM10/PM2.5 for Loading (ton/yr)	Uncontrolled PTE PM from Unloading (lb/hr)	Uncontrolled PTE PM from Unloading (ton/yr)	Uncontrolled PTE PM10/PM2.5 from Unloading (lb/hr)	Uncontrolled PTE PM10/PM2.5 from Unloading (ton/yr)
Limestone	800				40	175.2	16	70.08	4.8	21.024
Coal	1300				65	284.7	26	113.88	7.8	34.164
Calcined Petroleum Coke	150.00	5.00E-02	2.00E-02	6.00E-03	7.50	32.85	3	13.14	0.9	3.942
Total	**2250**					**492.75**		**197.1**		**59.13**

	Control Efficiency (%)	Controlled PTE PM/PM10/PM2.5 for Loading (lb/hr)	Controlled PTE PM/PM10/PM2.5 for Loading (ton/yr)	Controlled PTE PM from Unloading (lb/hr)	Controlled PTE PM from Unloading (ton/yr)	Controlled PTE PM10/PM2.5 from Unloading (lb/hr)	Controlled PTE PM10/PM2.5 from Unloading (ton/yr)
Limestone		2	8.76	0.8	3.50	0.24	1.05
Coal		3.25	14.24	1.3	5.69	0.39	1.71
Calcined Petroleum Coke	95%	0.38	1.64	0.15	0.66	0.045	0.20
Total			**24.64**		**9.86**		**2.96**

	Uncontrolled PM PTE (ton/	**Uncontrolled PM10/2.5 PTE (ton/yr)**	**ntrolled PM PTE (ton**	**Controlled PM10/PM2.5 (ton/yr)**
Worst Case (Coal)	**398.58**	**318.864**	**21.64**	**19.93**

(1) Emission Factor from Fire Version 5.0 SCC 30501023 Loading
(2) Emission Factor from Fire Version 5.0 SCC30501008 Unloading

Methodology
Uncontrolled PTE PM/PM10/PM2.5 for Loading (lb/hr) = Max throughput (ton/hr) * PM/PM10/PM2.5 Emission Factor for Loading (lb/ton)
Uncontrolled PTE PM/PM10/PM2.5 for Loading (ton/yr) =Uncontrolled Pte PM/PM10/PM2.5 for Loading (lb/hr) * 8760 hours/1year *1ton
Uncontrolled PTE PM from Unloading (lb/hr) = Max throughput (ton/hr) * PM Emission Factor for Unloading (lb/ton)
Uncontrolled PTE PM from Unloading (ton/yr) = Uncontrolled PTE PM from Unloading (lb/hr) * 8760hours/1yr * 1ton/2000lbs
Uncontrolled PTE PM10/PM2.5 from Unloading (lb/hr) = Max. Throughput (ton/hr) * PM10/PM2.5 Emission Factor for Unloading (lb/ton)
Uncontrolled PTE PM10/PM2.5 from Unloading (ton/yr) = Uncontrolled PTE PM10/PM2.5 from Unloading (lb/hr) * 8760 hours/1yr * 1ton
Controlled PTE PM/PM10/PM2.5 for Loading (lb/hr) = Uncontrolled PTE PM/PM10/PM2.5 for Loading (lb/hr) * 1- Control Effiency (%)
Controlled PTE PM/PM10/PM2.5 for Loading (ton/yr) = Controlled PTE PM/PM10/PM2.5 for Loading (lb/hr) * 8760hours/1yr * 1ton/2000lbs
Controlled PTE PM from Unloading (lb/hr) = Uncontrolled PTE PM from Unloading (lb/hr) * 1- Control Efficiency (%)
Controlled PTE PM from Unloading (ton/yr) = Controlled PTE from Unloading (lb/hr) * 8760hours/1year * 1ton/2000lbs
Controlled PM10/PM2.5 from Unloading (lb/hr) = Uncontrolled PTE PM10/PM2.5 from Unloading (lb/hr) * 1- Control Efficiency (%)
Controlled PM10/PM2.5 from Unloading (ton/yr) = Controlled PM10/PM2.5 from Unloading (lb/hr) * 8760hours/1year * 1ton/2000lbs

Appendix A: Emission Calculations
Fugitive Dust Emissions - Unpaved Roads

Company Name: **Alcoa Power Generating, Inc. - Warrick Power Plant**
Address City IN Zip: **4700 Darlington Road, Newburgh, IN 47630**
Permit Number: **173-33817-00002**
Reviewer: **Deena Patton**

Unpaved Roads at Industrial Site
The following calculations determine the amount of emissions created by unpaved roads, based on maximum annual material througput tonnages and AP-42, Ch 13.2.2 (11/2006).

Vehicle Information (provided by source)

Type	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)	
Barge Coal Trucks (entering plant) (one-way trip)	13966.0	209490.0	0.3165	4420.2	
Barge Coal Trucks (leaving plant) (one-way trip)	13966.0	558624.0	0.3165	4420.2	
Limestone Trucks (entering plant) (one-way trip)	10224.0	153360.0	0.3	3067.2	
Limestone Trucks (leaving plant) (one-way trip)	10224.0	408960.0	0.3	3067.2	
Lime Trucks (entering plant) (one-way trip)	55.0	2196.0	0.3	16.5	
Lime Trucks (leaving plant) (one-way trip)	55.0	825.0	0.3	16.5	
Gypsum Trucks (entering plant) (one-way trip)	12114.0	278622.0	0.1	1211.4	
Gypsum Trucks (leaving plant) (one-way trip)	12114.0	738922.0	0.1	1211.4	
Gypsum Trucks (entering plant) (one-way trip)	0.0	0.0	0.0	0.0	All trucks moving gypsum are assumed to be 38 ton trucks
Gypsum Trucks (leaving plant) (one-way trip)	0.0	0.0	0.0	0.0	All trucks moving gypsum are assumed to be 38 ton trucks
Limestone Delivered by Trucks External to the plant (entering plant) (one-way trip)	0.0	0.0	0.0	0.0	Only for those instances where deliveries cannot occur by barge
Limestone Delivered by Trucks External to the plant (leaving plant) (one-way trip)	0.0	0.0	0.0	0.0	Only for those instances where deliveries cannot occur by barge
Bottom Ash Trucks (entering plant) (one-way trip)	1837.0	42251.0	0.57	1047.1	
Bottom Ash Trucks (leaving plant) (one-way trip)	1837.0	112051.0	0.57	1047.1	
Coal Trucked in via public roads to the coal stockpile (entering plant) (one-way trip)	20000.0	300000.0	0.57	11400.0	
Coal Trucked in via public roads to the coal stockpile (leaving plant) (one-way trip)	20000.0	800000.0	0.57	11400.0	
Calcined Coke Trucks (entering plant) (one-way trip)	4954.0	74310.0	0.45	2229.3	
Calcined Coke Trucks (leaving plant) (one-way trip)	4954.0	197796.0	0.45	2229.3	
Totals	**48380.0**	**1330434.0**		**14974.9**	

Average Vehicle Load Per Trip = 27.5 tons/trip
Average Miles Per Trip = 0.31 miles/trip

Unmitigated Emission Factor, Ef = k*[(s/12)^a]*[(W/3)^b] (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-1 Sand/Gravel Processing Plant)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2 for Industrial Roads)
W =	27.5	27.5	27.5	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2 for Industrial Roads)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [(365 - P)/365] (Equation 2 from AP-42 13.2.2)
Mitigated Emission Factor, Eext = E * [(365 - P)/365]
where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.99	1.78	0.18	lb/mile
Mitigated Emission Factor, Eext =	4.60	1.17	0.12	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Barge Coal Trucks (entering plant) (one-way trip)	15.45	3.94	0.39	10.16	2.59	0.26	5.08	1.29	0.13
Barge Coal Trucks (leaving plant) (one-way trip)	15.45	3.94	0.39	10.16	2.59	0.26	5.08	1.29	0.13
Limestone Trucks (entering plant) (one-way trip)	10.72	2.73	0.27	7.05	1.80	0.18	3.53	0.90	0.09
Limestone Trucks (leaving plant) (one-way trip)	10.72	2.73	0.27	7.05	1.80	0.18	3.53	0.90	0.09
Lime Trucks (entering plant) (one-way trip)	0.06	0.01	0.00	0.04	0.01	0.00	0.02	0.00	0.00
Lime Trucks (leaving plant) (one-way trip)	0.06	0.01	0.00	0.04	0.01	0.00	0.02	0.00	0.00
Gypsum Trucks (entering plant) (one-way trip)	4.24	1.08	0.11	2.78	0.71	0.07	1.39	0.35	0.04
Gypsum Trucks (leaving plant) (one-way trip)	4.24	1.08	0.11	2.78	0.71	0.07	1.39	0.35	0.04
Bottom Ash Trucks (entering plant) (one-way trip)	3.66	0.93	0.09	2.41	0.61	0.06	1.20	0.31	0.03
Bottom Ash Trucks (leaving plant) (one-way trip)	3.66	0.93	0.09	2.41	0.61	0.06	1.20	0.31	0.03
Coal Trucked in via public roads to the coal stockpile (entering plant) (one-way trip)	39.86	10.16	1.02	26.21	6.68	0.67	13.10	3.34	0.33
Coal Trucked in via public roads to the coal stockpile (leaving plant) (one-way trip)	39.86	10.16	1.02	26.21	6.68	0.67	13.10	3.34	0.33
Calcined Coke Trucks (entering plant) (one-way trip)	7.79	1.99	0.20	5.12	1.31	0.13	2.56	0.65	0.07
Calcined Coke Trucks (leaving plant) (one-way trip)	7.79	1.99	0.20	5.12	1.31	0.13	2.56	0.65	0.07
Totals	**163.57**	**41.69**	**4.17**	**107.55**	**27.41**	**2.74**	**53.78**	**13.71**	**1.37**

Methodology
Empty weight of a 25 ton truck is assumed to be 15 tons, and the empty weight of a 38 tons truck is assumed to be 23 tons.
Total Weight driven per yr (ton/yr) = [Weight of truck, unloaded or Loaded (tons/trip)] * [Maximum trips per yr (trip/yr)]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per yr (ton/yr)] / SUM[Maximum trips per yr (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PTE = Potential to Emit

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: **Alcoa Power Generating, Inc. - Warrick Power Plant**
Address City IN Zip: **4700 Darlington Road, Newburgh, IN 47630**
Permit Number: **173-33817-00002**
Reviewer: **Deena Patton**

Paved Roads at Industrial Site
The following calculations determine the amount of emissions created by paved roads, based on maximum annul material tonnage throughputs and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum trips per yr (trip/yr)	Total Weight driven per yr (ton/yr)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)	
Lime Trucks (entering plant) (one-way trip)	55.0	825.0	0.40	22	
Lime Trucks (leaving plant) (one-way trip)	55.0	2200.0	0.40	22	
Gypsum Trucks (entering plant) (one-way trip)	12114.0	278622.0	0.45	5451.3	
Gypsum Trucks (leaving plant) (one-way trip)	12114.0	738922.0	0.45	5451.3	
Fly Ash Trucks (entering plant) (one-way trip)	1112.0	16680.0	0.4	444.8	
Fly Ash Trucks (leaving plant) (one-way trip)	1112.0	44467.5	0.4	444.8	
Fly Ash Trucks (entering plant) (one-way trip)	6582.0	151386.0	0.4	2632.8	
Fly Ash Trucks (leaving plant) (one-way trip)	6582.0	401473.5	0.4	2632.8	
Limestone Delivered by Trucks External to the plant (entering plant) (one-way trip)	0.0	0.0	0.0	0	Only for those instances where deliveries cannot occur by barge
Limestone Delivered by Trucks External to the plant (leaving plant) (one-way trip)	0.0	0.0	0.0	0	Only for those instances where deliveries cannot occur by barge
Bottom Ash Trucks (entering plant) (one-way trip)	1837.0	42251.0	0.4	734.8	
Bottom Ash Trucks (leaving plant) (one-way trip)	1837.0	112051.0	0.4	734.8	
Coal Trucked in via public roads to the coal stockpile (entering plant) (one-way trip)	20000.0	300000.0	0.4	8000	
Coal Trucked in via public roads to the coal stockpile (leaving plant) (one-way trip)	20000.0	800000.0	0.4	8000	
Coal Trucked in via public roads to the dump point adjacent to the rail car dumper (entering plant) (one-way trip)	20000.0	300000.0	0.4	8000	
Coal Trucked in via public roads to the dump point adjacent to the rail car dumper (leaving plant) (one-way trip)	20000.0	800000.0	0.4	8000	
Calcined Coke Trucks haul road to the smelter southwest access gate (entering plant) (one-way trip)	4954.0	198156.0	0.4	1981.6	
Calcined Coke Trucks haul road to the smelter southwest access gate (leaving plant) (one-way trip)	4954.0	74310.0	0.4	1981.6	
Smelter southwest access gate to the coke storage silos (entering plant) (one-way trip)	4954.0	198156.0	0.5	2477	
Smelter southwest access gate to the coke storage silos (leaving plant) (one-way trip)	4954.0	74310.0	0.5	2477	
	143216.0	**4533810.0**		**59488.6**	

Average Vehicle Weight Per Trip = 31.7 tons/trip
Average Miles Per Trip = 0.42 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

where

	PM	PM10	PM2.5	
k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	31.7	31.7	31.7	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m^2 = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)
				Update silt content value (if necessary) based on the specifics of the source

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	2.9501	0.590	0.1448	lb/mile
Mitigated Emission Factor, Eext =	2.6975	0.540	0.1324	lb/mile
Watering Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)
Mobile Vacuum Sweeper Dust Control Efficiency=	79%	79%	79%	**Delete dust control efficiency if there is no fugitive dust control plan**

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Lime Trucks (entering plant) (one-way trip)	0.03	0.01	0.00	0.03	0.01	0.00	0.01	0.00	0.00
Lime Trucks (leaving plant) (one-way trip)	0.03	0.01	0.00	0.03	0.01	0.00	0.01	0.00	0.00
Gypsum Trucks (entering plant) (one-way trip)	8.04	1.61	0.39	7.35	1.47	0.36	3.68	0.74	0.18
Gypsum Trucks (leaving plant) (one-way trip)	8.04	1.61	0.39	7.35	1.47	0.36	3.68	0.74	0.18
Fly Ash Trucks (entering plant) (one-way trip)	0.66	0.13	0.03	0.60	0.12	0.03	0.30	0.06	0.01
Fly Ash Trucks (leaving plant) (one-way trip)	0.66	0.13	0.03	0.60	0.12	0.03	0.30	0.06	0.01
Fly Ash Trucks (entering plant) (one-way trip)	3.88	0.78	0.19	3.55	0.71	0.17	1.78	0.36	0.09
Fly Ash Trucks (leaving plant) (one-way trip)	3.88	0.78	0.19	3.55	0.71	0.17	1.78	0.36	0.09
Limestone Delivered by Trucks External to the plant (entering plant) (one-way trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Delivered by Trucks External to the plant (leaving plant) (one-way trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Ash Trucks (entering plant) (one-way trip)	1.08	0.22	0.05	0.99	0.20	0.05	0.50	0.10	0.02
Bottom Ash Trucks (leaving plant) (one-way trip)	1.08	0.22	0.05	0.99	0.20	0.05	0.50	0.10	0.02
Coal Trucked in via public roads to the coal stockpile (entering plant) (one-way trip)	11.80	2.36	0.58	10.79	2.16	0.53	5.40	1.08	0.26
Coal Trucked in via public roads to the coal stockpile (leaving plant) (one-way trip)	11.80	2.36	0.58	10.79	2.16	0.53	5.40	1.08	0.26
Coal Trucked in via public roads to the dump point adjacent to the rail car dumper (entering plant) (one-way trip)	11.80	2.36	0.58	10.79	2.16	0.53	5.40	1.08	0.26
Coal Trucked in via public roads to the dump point adjacent to the rail car dumper (leaving plant) (one-way trip)	11.80	2.36	0.58	10.79	2.16	0.53	5.40	1.08	0.26
Calcined Coke Trucks haul road to the smelter southwest access gate (entering plant) (one-way trip)	2.92	0.58	0.14	2.67	0.53	0.13	1.34	0.27	0.07
Calcined Coke Trucks haul road to the smelter southwest access gate (leaving plant) (one-way trip)	2.92	0.58	0.14	2.67	0.53	0.13	1.34	0.27	0.07
Smelter southwest access gate to the coke storage silos (entering plant) (one-way trip)	3.65	0.73	0.18	3.34	0.67	0.16	0.70	0.14	0.03
Smelter southwest access gate to the coke storage silos (leaving plant) (one-way trip)	3.65	0.73	0.18	3.34	0.67	0.16	0.70	0.14	0.03
Totals	**87.75**	**17.55**	**4.31**	**80.24**	**16.05**	**3.94**	**38.18**	**7.64**	**1.87**

Methodology
Empty weight of a 25 ton truck is assumed to be 15 tons, and the empty weight of a 38 tons truck is assumed to be 23 tons.
Total Weight driven per yr (ton/yr) = [Weight of truck, unloaded or Loaded (tons/trip)] * [Maximum trips per yr (trip/yr)]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per yr (ton/yr)] / SUM[Maximum trips per yr (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Thomas W. Easterly
Commissioner

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Sam Bruntz
ALCOA Power Generating, Inc - Warrick Power Plant
PO Box 10, Bldg 860E
Newburgh, IN 46729-0010

DATE: April 8, 2014

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V - Significant Permit Modification
173 - 33817 - 00002

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Robert Marrs, Power Plant Mgr
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 6/13/2013

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Thomas W. Easterly
Commissioner

April 8, 2014

TO: Newburgh Public Library 30 West Water St Newburgh IN

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: ALCOA Power Generating, Inc - Warrick Power Plant
Permit Number: 173 - 33817 - 00002

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 6/13/2013

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: April 8, 2014

RE: ALCOA Power Generating, Inc - Warrick Power Plant / 173 - 33817 - 00002

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
http://www.in.gov/ai/appfiles/idem-caats/

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 6/13/2013

Mail Code 61-53

IDEM Staff	LPOGOST 4/8/2014 ALCOA - Warrick Power Plt, AGC Div of Alcoa Generating 173 - 33817 - 00002 final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
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2		Robert Marrs Power Plant Mgr ALCOA - Warrick Power Plt, AGC Div of Alcoa Genera 4700 Darlington Rd Newburgh IN 46729-0010 *(RO CAATS)*									
3		Warrick County Board of Commissioners 107 W. Locust Street Suite # 301 Boonville IN 47601-0585 *(Local Official)*									
4		Warrick County Health Department 107 W Locust, Suite 204 Boonville IN 47601-1701 *(Health Department)*									
5		Mr. Don Mottley Save Our Rivers 6222 Yankeetown Hwy Boonville IN 47601 *(Affected Party)*									
6		Newburgh Public Library 30 West Water St Newburgh IN 47630 *(Library)*									
7		Newburgh Town Council and Town Manager P.O Box 6 Newburgh IN 47630 *(Local Official)*									
8		Kim Sherman 3355 Woodview Drive Newburgh IN 47630 *(Affected Party)*									
9		Mr. Mark Wilson Evansville Courier & Press P.O. Box 268 Evansville IN 47702-0268 *(Affected Party)*									
10		Joanne Alexandrovich Vanderburgh County Health Dept. 420 Mulberry ST. Evansville IN 47713 *(Affected Party)*									
11		Mr. Bil Musgrove PO Box 520 Chandler IN 47610 *(Affected Party)*									
12		Jeff Siddons 22321 Piazza Doria LN., Unit 101 Estero FL 33928 *(Affected Party)*									
13		David Boggs 216 Western Hills Dr Mt Vernon IN 47620 (Affected Party)									
14		John Blair 800 Adams Ave Evansville IN 47713 *(Affected Party)*									
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