



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: January 30, 2013

RE: Praxair, Inc. / 089 - 31620 - 00435

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 13-15-5-3, this permit 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 13-15-6-1(b) or IC 13-15-6-1(a) 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 of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

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 an initial Title V operating permit, permit renewal, 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 impracticable 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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Part 70 Operating Permit Renewal OFFICE OF AIR QUALITY

**Praxair, Inc.
2251 Dickey Rd.
East Chicago, Indiana 46312**

(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.

Operation Permit No.: T089-31620-00435	
Issued by: <i>Tripurari Sinha</i> Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: January 30, 2013 Expiration Date: January 30, 2018

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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.4 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 industrial gas manufacturing source.

Source Address:	2251 Dickey Rd., East Chicago, Indiana 46312
General Source Phone Number:	219-378-4854
SIC Code:	2813
County Location:	Lake
Source Location Status:	Nonattainment for 8-hour ozone standard Attainment for all other criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD Rules Major Source for Nonattainment NSR Review Minor Source, Section 112 of the Clean Air Act Not 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(15)]

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

- (a) One (1) steam methane Reformer No. 1, identified as A3 and installed in 1991, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 45 million British thermal units (MMBtu) per hour, exhausting at one (1) stack identified as SV003. During Reformer No. 1 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 006.

Reformer No. 1 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (b) One (1) steam methane Reformer No. 2, identified as A8 and installed in 1998, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 37.1 MMBtu per hour, exhausting at one (1) stack identified as S/V 008. During Reformer No. 2 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 010.

Reformer No. 2 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (c) One (1) steam methane Reformer No. 3, identified as A11 and installed in 1999, equipped with a low NOx burner using a mixture of process tail gas and natural gas as fuel and rated at 83.8 MMBtu per hour, exhausting at one (1) stack identified as S/V 011. During Reformer No. 3 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 012;

Reformer No. 3 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (d) One (1) steam methane Reformer No. 4, identified as A17, constructed in 2006, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 213.9 MMBtu per hour, exhausting at one (1) stack identified as S/V 017. During Reformer No. 4 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 016.

Reformer No. 4 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (e) One (1) carbon dioxide (CO₂) purification system, identified as A9 and installed in 1998, recovering and purifying CO₂ generated by reformers A3, A8, A11 and A17, with a process design rate of 172,000 standard cubic feet per hour (SCFH) of feed gas. The by-product stream from the system continuously exhausts through one (1) stack identified as S/V 014, with a maximum design flow rate of 5,657 SCFH and containing no more than 1.58 percent (%) by volume of carbon monoxide (CO). When the carbon dioxide purification system is not operating or at reduced capacity, same or all of the feed gas generated from reformers A3, A8, A11 and A17 will exhaust through one (1) stack identified as S/V 009, at maximum design flow rate of 172,000 SCFH and containing no more than 0.052% by volume of CO.

- (f) One (1) natural gas fired Boiler No. 3, identified as A7 and installed in 1998, rated at 38.8 MMBtu per hour, equipped with a low-NOx burner, and exhausting at one (1) stack identified as S/V 007.

Boiler No. 3 is subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units in 40 CFR 60, Subpart Dc.

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) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including:
- (1) One (1) natural gas fired Boiler 1, identified as A1 and installed in 1978, rated at 5.6 MMBtu per hour, and exhausting at one (1) stack identified as SV001. [326 IAC 6-2-2]
 - (2) One (1) natural gas fired Boiler 2, identified as A2 and installed in 1978, rated at

5.6 MMBtu per hour, and exhausting at one (1) stack identified as SV002. [326 IAC 6-2-2]

- (b) The following volatile organic compound (VOC) and hazardous air pollutant (HAP) storage containers:
 - (1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including three (3) diesel fuel oil storage tanks, identified as T001, T002, and T004 with storage capacities of 250 gallons, 55 gallons, and 200 gallons, respectively. [326 IAC 8-9]
- (c) Diesel fuel oil storage Tank T005 with storage capacity of 2,000 gallons and annual throughput less than 12,000 gallons. [326 IAC 8-9]
- (d) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]
- (e) Emergency generators as follows: diesel generators not exceeding 1600 horsepower, including:
 - (1) One (1) 100 kilowatt emergency generator, identified as A13 and installed in 1999, driven by a 154 horsepower diesel engine, combusting No. 2 diesel fuel oil, exhausting at one (1) stack identified as S/V 013. [40 CFR 63, Subpart ZZZZ]
 - (2) One (1) 350 kilowatt emergency generator, identified as A15 and installed in 1999, driven by a 519 horsepower diesel engine, combusting No. 2 diesel fuel oil, exhausting at one (1) stack identified as S/V 015. [40 CFR 63, Subpart ZZZZ]
 - (3) One (1) diesel fired emergency generator, identified as A4 and installed in 1978, rated at 0.51 MMBtu per hour, exhausting at one (1) stack identified as SV004. [40 CFR 63, Subpart ZZZZ]
- (f) Stationary Fire pump engine:
 - (1) One (1) diesel fired emergency firewater pump, identified as A5 and installed in 1978, rated at 1.2 MMBtu per hour, exhausting at one (1) stack identified as SV005. [40 CFR 63, Subpart ZZZZ]
- (g) Paved roads and parking lots with public access. [326 IAC 6-4]

A.4 Additional Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-5(14)]

The source contains the following additional insignificant activities:

- (h) Other categories with emissions below insignificant thresholds:
 - (1) De-aerator Vents for Hydrogen Plants 1, 2, 3 and 4, identified as A18 through A21.
- (i) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (i) Cleaners and solvents characterized as follows:
 - (1) having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20°C (68°F);

the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

- (k) Closed loop heating and cooling systems.
- (l) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.
- (m) Other categories with emissions below insignificant thresholds, including fugitive emissions from steam reformer system valves and flanges.
- (n) A petroleum fuel other than gasoline dispensing facility, having a storage tank capacity of less than or equal to 10,500 gallons, and dispensing 3,500 gallons per day or less.
- (o) Noncontact cooling tower systems with either of the following:
Forced and induced draft cooling tower system not regulated under a NESHAP.
 - (1) One (1) Norwalk Cooling Tower, installed in 1970, 50 gpm recirculation, 0.2% drift factor.
 - (2) One (1) Main Cooling Tower, installed in 1970, 5,000 gpm recirculation, 0.02% drift factor.
 - (3) One (1) CO₂ Unit Cooling Tower, installed in 2004, 1,700 gpm recirculation, 0.005% drift factor.
- (p) Heat exchanger cleaning and repair.
- (q) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (r) Filter or coalescer media changeout.
- (s) Miscellaneous industrial activities with emissions increase below the insignificant levels as follows:
 - (1) For lead or lead compounds measured as elemental lead, the exemption level is six-tenths (0.6) ton per year or three and twenty-nine hundredths (3.29) pounds per day.
 - (2) For carbon monoxide (CO), the exemption limit is twenty-five (25) pounds per day.
 - (3) For sulfur dioxide, the exemption level is five (5) pounds per hour or twenty-five (25) pounds per day.
 - (4) For VOC, the exemption limit is three (3) pounds per hour or fifteen (15) pounds per day.
 - (5) For nitrogen oxides (NO_x), the exemption limit is five (5) pounds per hour or twenty-five (25) pounds per day.
 - (6) For PM₁₀ or direct PM_{2.5}, the exemption level is either five (5) pounds per hour or twenty-five (25) pounds per day.

A.5 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).

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, T089-31620-00435, 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.
- (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(34), 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).

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 April 15 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(34).

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(34).

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).

- (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 Northwest 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
Northwest Regional Office phone: (219) 757-0265; fax: (219) 757-0267.

- (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).

- (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 T089-31620-00435 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.

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]

- (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) 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).

- (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.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)(1) and (c)(1). 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.

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 twenty percent (20%) 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 Fugitive Particulate Matter Emissions [326 IAC 6.8-10-3]

Pursuant to 326 IAC 6.8-10-3 (formerly 326 IAC 6-1-11.1) (Lake County Fugitive Particulate Matter Control Requirements), the particulate matter emissions from source wide activities shall meet the following requirements:

- (a) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).
- (b) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).

- (c) The opacity of fugitive particulate emissions from exposed areas shall not exceed ten percent (10%) on a six (6) minute average.
- (d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.
- (e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.
- (f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.
- (g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).
- (h) Material processing facilities shall include the following:
 - (1) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.
 - (2) The PM₁₀ emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
 - (3) The PM₁₀ stack emissions from a material processing facility shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
 - (4) The opacity of fugitive particulate emissions from the material processing facilities, except a crusher at which a capture system is not used, shall not exceed ten percent (10%) opacity.
 - (5) The opacity of fugitive particulate emissions from a crusher at which a capture system is not used shall not exceed fifteen percent (15%).
- (i) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).
- (j) Material transfer limits shall be as follows:
 - (1) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).
 - (2) Where adequate wetting of the material for fugitive particulate emissions control is prohibitive to further processing or reuse of the material, the opacity shall not exceed ten percent (10%), three (3) minute average.
 - (3) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:
 - (A) The opacity of fugitive particulate emissions from transfer from pots and trucks into pits shall not exceed twenty percent (20%) on a six (6) minute average.

- (B) The opacity of fugitive particulate emissions from transfer from pits into front end loaders and from transfer from front end loaders into trucks shall comply with the fugitive particulate emission limits in 326 IAC 6.8-10-3(9).
- (k) Any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the attached Fugitive Dust Control Plan.

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)]

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.

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.
- (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(12)] [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]

- (a) In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), the Permittee shall submit by July 1 an emission statement covering the previous calendar year as follows:
- (1) starting in 2004 and every three (3) years thereafter, and
 - (2) any year not already required under (1) if the source emits volatile organic compounds or oxides of nitrogen into the ambient air at levels equal to or greater than twenty-five (25) tons during the previous calendar year.
- (b) 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:
- (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:
- (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 2-3]

- (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

Facility Description [326 IAC 2-7-5(15)]:

- (a) One (1) steam methane Reformer No. 1, identified as A3 and installed in 1991, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 45 million British thermal units (MMBtu) per hour, exhausting at one (1) stack identified as SV003. During Reformer No. 1 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 006.

Reformer No. 1 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (b) One (1) steam methane Reformer No. 2, identified as A8 and installed in 1998, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 37.1 MMBtu per hour, exhausting at one (1) stack identified as S/V 008. During Reformer No. 2 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 010.

Reformer No. 2 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (c) One (1) steam methane Reformer No. 3, identified as A11 and installed in 1999, equipped with a low NOx burner using a mixture of process tail gas and natural gas as fuel and rated at 83.8 MMBtu per hour, exhausting at one (1) stack identified as S/V 011. During Reformer No. 3 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 012.

Reformer No. 3 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (d) One (1) steam methane Reformer No. 4, identified as A17, constructed in 2006, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 213.9 MMBtu per hour, exhausting at one (1) stack identified as S/V 017. During Reformer No. 4 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 016.

Reformer No. 4 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (e) One (1) carbon dioxide (CO₂) purification system, identified as A9 and installed in 1998, recovering and purifying CO₂ generated by reformers A3, A8, A11 and A17, with a process design rate of 172,000 standard cubic feet per hour (SCFH) of feed gas. The by-product stream from the system continuously exhausts through one (1) stack identified as S/V 014, with a maximum design flow rate of 5,657 SCFH and containing no more than 1.58 percent (%) by volume of carbon monoxide (CO). When the carbon dioxide purification system is not operating or at reduced capacity, same or all of the feed gas generated from reformers A3, A8, A11 and A17 will exhaust through one (1) stack identified as S/V 009, at maximum design flow rate of 172,000 SCFH and containing no more than 0.052% by volume of CO.

Facility Description [326 IAC 2-7-5(15)]:

- (f) One (1) natural gas fired Boiler No. 3, identified as A7 and installed in 1998, rated at 38.8 MMBtu per hour, equipped with a low-NOx burner, and exhausting at one (1) stack identified as S/V 007.

Boiler No. 3 is subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units in 40 CFR 60, Subpart Dc.

(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 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the 38.8 MMBtu per hour heat input Boiler No. 3, identified as A7, shall not exceed 0.394 pounds per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = 1.09 / Q^{0.26} \quad \text{where: } Pt = \text{pounds of PM emitted per MMBtu heat input (lb/MMBtu)}$$
$$Q = \text{total source operating capacity (MMBtu/hr)}$$

D.1.2 PSD Minor Limit [326 IAC 2-2]

The total carbon monoxide (CO) emissions from the process vent stacks of Reformer No. 1, 2, 3, and 4 and Boiler No. 3 shall be less than 191.1 tons per twelve (12) consecutive month period with compliance determined at the end of each month; and the CO emissions shall be calculated by the following equation:

$$CO = \frac{72.0 \text{ lb/TCF} \times (A + B + C + D) + 84.0 \text{ lb/MMCF} \times E}{2000 \text{ lb/ton}}$$

Where:

- CO = Total CO emissions, tons/month
- A = CO Vent Flow of Reformer No. 1 (S/V 006), TCF/month
- B = CO Vent Flow of Reformer No. 2 (S/V 010), TCF/month
- C = CO Vent Flow of Reformer No. 3 (S/V 012), TCF/month
- D = CO Vent Flow of Reformer No. 4 (S/V 016), TCF/month
- E = Natural gas consumption of Boiler No. 3, MMCF/month
- TCF = Thousand cubic feet; CO emission factor for reformers is 72 lb/TCF at standard temperature and pressure (1 atm, 70°F)
- MMCF = Million cubic feet; CO emission factor for boilers is 84 lb/MMCF

Compliance with the above limits, combined with potential to emit CO from other emissions units at this source shall limit the CO emissions from the entire source to less than 250 tons per twelve (12) consecutive month period and will render 326 IAC 2-2 not applicable.

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for Reformer No. 1, 2, 3 & 4, and Boiler No. 3. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.4 CO Concentration

Instrumentation that continuously computes the amount of CO vented at each process vent connected to stacks S/V 006, 010, 012, and 016 as a function of the duration of vent valve opening and process throughput, shall be continuously operated on Reformer Nos. 1, 2, 3, and 4 and shall be tested in accordance with Condition D.1.5.

D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

In order to determine compliance with Condition D.1.2, the Permittee shall perform emissions testing to determine the CO emissions for Reformer No. 1, 2, 3 and 4 process vent stacks utilizing methods as approved by the Commissioner. Reformer No. 1 and 4 shall be tested at tail gas CO₂ removal levels that correspond to intended operation. These tests shall be repeated at least once every five years from the date of the most recent 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 obligations with regard to the performance testing required by this condition.

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

D.1.6 Parametric Monitoring

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on each process vent connected to, and exhausting at, stacks S/V 006, 010, 012, and 016 during startup and other process venting from Reformers 1, 2, 3, and 4, respectively, for compiling CO emissions using software with inputs of duration of vent valve openings plus process throughput. The output of this system shall be recorded continuously to compute the amount of carbon monoxide vented to determine compliance with Condition D.1.2.
- (b) The instruments used for determining parameter measurements 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. Calibration of the reformer process vent valve monitoring system shall include a procedure that verifies functionality of open/closed valve operations.

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

D.1.7 Record Keeping Requirements

- (a) To document compliance with Condition D.1.2, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken continuously, except where otherwise indicated. Including paragraph (a)(1) of this condition, the records shall be complete and sufficient to establish compliance with the CO emission limits established in Condition D.1.2.
 - (1) The continuous records for Reformer Nos. 1, 2, 3, and 4 as follows:
 - (A) software compilation of CO emissions using process throughput and vent valve opening duration for each process vent connected to, and exhausting at, stacks S/V 006, 010, 012, and 016 during startup of Reformers 1, 2, 3, and 4 respectively; and
 - (B) CO Vent Flow at Reformer Nos. 1, 2, 3, and 4 process vent stacks (S/V006, 010, 012, and 016, respectively) and the continuously computed amount of carbon monoxide emitted.

- (2) Monthly records of the natural gas consumption for Boiler No. 3.
 - (3) The amount of carbon monoxide (CO) emitted for each compliance period (tons per month).
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.1.8 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.1.2 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of each calendar quarter. 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). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Insignificant Activities [326 IAC 2-7-1(21)]:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including:
 - (1) One (1) natural gas fired Boiler 1, identified as A1 and installed in 1978, rated at 5.6 MMBtu per hour, and exhausting at one (1) stack identified as SV001. [326 IAC 6-2-2]
 - (2) One (1) natural gas fired Boiler 2, identified as A2 and installed in 1978, rated at 5.6 MMBtu per hour, and exhausting at one (1) stack identified as SV002. [326 IAC 6-2-2]
- (b) The following volatile organic compound (VOC) and hazardous air pollutant (HAP) storage containers:
 - (1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including three (3) diesel fuel oil storage tanks, identified as T001, T002, and T004 with storage capacities of 250 gallons, 55 gallons, and 200 gallons, respectively. [326 IAC 8-9]
- (c) Diesel fuel oil storage Tank T005 with storage capacity of 2,000 gallons and annual throughput less than 12,000 gallons. [326 IAC 8-9]
- (d) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]

(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.2.1 Particulate Matter (PM) [326 IAC 6-2-2]

Pursuant to 326 IAC 6-2-2, the PM emissions from each of 5.6 MMBtu per hour heat input Boiler Nos. 1 and 2, respectively identified as A1 and A2, shall be limited to 0.591 pounds per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = 0.87 / Q^{0.16} \quad \text{where: } Pt = \text{pounds of PM emitted per MMBtu heat input (lb/MMBtu)}$$
$$Q = \text{total source maximum operating capacity rating (MMBtu/hr)}$$

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), cold cleaner degreasing operation constructed after January 1, 1980, 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.2.3 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, 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°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 or 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), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, 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.

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

D.2.4 Record Keeping and Reporting Requirements [326 IAC 8-9]

Pursuant to 326 IAC 8-9-1(b) (Volatile Organic Liquid Storage Vessels), the source shall be exempt from all provisions of the rule, except that the source shall comply with the following recording and reporting requirements for the diesel fuel oil storage tanks T001, T002, T004 and T005:

- (a) Maintain a record and submit to the department a report containing the following information for each vessel:
- (1) The vessel identification number.
 - (2) The vessel dimensions.
 - (3) The vessel capacity.
- (b) All records required by (b)(1) of this condition shall be maintained for the life of the affected vessel.
- (c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (e) One (1) natural gas fired Boiler No. 3, identified as A7 and installed in 1998, rated at 38.8 MMBtu per hour, equipped with a low-NOx burner, and exhausting at one (1) stack identified as S/V 007.

Boiler No. 3 is subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units in 40 CFR 60, Subpart Dc.

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

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

E.1.E General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to Boiler No. 3 except when otherwise specified in 40 CFR Part 60, Subpart Dc

E.1.2 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12-1] [40 CFR Part 60, Subpart Dc]

Boiler No. 3 shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (included as Attachment A of this permit):

- (a) 40 CFR 60.40c(a)
- (b) 40 CFR 60.41c
- (c) 40 CFR 60.48c(g)

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Insignificant Activities [326 IAC 2-7-1(21)]:

- (e) Emergency generators as follows: diesel generators not exceeding 1600 horsepower, including:
 - (1) One (1) 100 kilowatt emergency generator, identified as A13 and installed in 1999, driven by a 154 horsepower diesel engine, combusting No. 2 diesel fuel oil, exhausting at one (1) stack identified as S/V 013. [40 CFR 63, Subpart ZZZZ]
 - (2) One (1) 350 kilowatt emergency generator, identified as A15 and installed in 1999, driven by a 519 horsepower diesel engine, combusting No. 2 diesel fuel oil, exhausting at one (1) stack identified as S/V 015. [40 CFR 63, Subpart ZZZZ]
 - (3) One (1) diesel fired emergency generator, identified as A4 and installed in 1978, rated at 0.51 MMBtu per hour, exhausting at one (1) stack identified as SV004. [40 CFR 63, Subpart ZZZZ]
- (f) Stationary Fire pump engine:
 - (1) One (1) diesel-fired emergency firewater pump, identified as A5 and installed in 1978, rated at 1.2 MMBtu per hour, exhausting at one (1) stack identified as SV005. [40 CFR 63, Subpart ZZZZ]

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.2.1 General Provisions Relating to NESHAP Subpart ZZZZ [40 CFR Part 63, Subpart A] [326 IAC 20-1]

Pursuant to 40 CFR 63.3901, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1 for the three emergency generators and diesel-fired emergency firewater pump, as specified in Table 8 of 40 CFR Part 63, Subpart ZZZZ in accordance with schedule in 40 CFR 63 Subpart ZZZZ.

E.2.2 NESHAP Subpart ZZZZ Requirements [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-80-1]

Pursuant to CFR Part 63, Subpart ZZZZ, the Permittee shall comply with the provisions of 40 CFR Part, Subpart ZZZZ (incorporated as attachment B) as specified as follows:

- (1) 40 CFR 63.6603
- (2) 40 CFR 63.6605
- (3) 40 CFR 63.6625(e), (f), (h) and (i)
- (4) 40 CFR 63.6640
- (5) 40 CFR 63.6655(a), (b), (d), (e) and (f)
- (6) Table 2d and footnote 2

SECTION E.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (a) One (1) steam methane Reformer No. 1, identified as A3 and installed in 1991, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 45 million British thermal units (MMBtu) per hour, exhausting at one (1) stack identified as SV003. During Reformer No. 1 startup, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 006.

Reformer No. 1 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV.

- (b) One (1) steam methane Reformer No. 2, identified as A8 and installed in 1998, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 37.1 MMBtu per hour, exhausting at one (1) stack identified as S/V 008. During Reformer No. 2 startup, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 010.

Reformer No. 2 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV.

- (c) One (1) steam methane Reformer No. 3, identified as A11 and installed in 1999, equipped with a low NOx burner using a mixture of process tail gas and natural gas as fuel and rated at 83.8 MMBtu per hour, exhausting at one (1) stack identified as S/V 011. During Reformer No. 3 startup, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 012.

Reformer No. 3 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV.

- (d) One (1) steam methane Reformer No. 4, identified as A17, constructed in 2006, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 213.9 MMBtu per hour, exhausting at one (1) stack identified as S/V 017. During Reformer No. 4 startup, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 016.

Reformer No. 4 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV.

- (e) One (1) carbon dioxide (CO₂) purification system, identified as A9 and installed in 1998, recovering and purifying CO₂ generated by reformers A3, A8, A11 and A17, with a process design rate of 172,000 standard cubic feet per hour (SCFH) of feed gas. The by-product stream from the system continuously exhausts through one (1) stack identified as S/V 014, with a maximum design flow rate of 5,657 SCFH and containing no more than 1.58 percent (%) by volume of carbon monoxide (CO). When the carbon dioxide purification system is not operating or at reduced capacity, same or all of the feed gas generated from reformers A3, A8, A11 and A17 will exhaust through one (1) stack identified as S/V 009, at maximum design flow rate of 172,000 SCFH and containing no more than 0.052% by volume of CO.

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

**National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements
[326 IAC 2-7-5(1)]**

E.3.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart VVVVVV]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1, apply to Reformer No. 1, 2, 3 and 4 except when otherwise specified in Table 9 of 40 CFR Part 63, Subpart VVVVVV.

E.3.2 National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources [40 CFR Part 63, Subpart VVVVVV]

Reformer No. 1, 2, 3 and 4 shall comply with the following provisions of 40 CFR Part 63, Subpart VVVVVV (included as Attachment C of this permit) with an initial compliance date of December 24, 2012:

- (1) 40 CFR 63.11494
- (2) 40 CFR 63.11495(a)(1), (3) and (5)
- (3) 40 CFR 63.11496(f)(2)
- (4) 40 CFR 63.11500
- (5) 40 CFR 63.11501(a), (b), (c) and (d)
- (6) 40 CFR 63.11502
- (7) 40 CFR 63.11503
- (8) Table 1
- (9) Table 9

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION**

Source Name: Praxair, Inc.
Source Address: 2251 Dickey Rd., East Chicago, Indiana 46312
Part 70 Permit No.: T089-31620-00435

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: Praxair, Inc.
Source Address: 2251 Dickey Rd., East Chicago, Indiana 46312
Part 70 Permit No.: T089-31620-00435

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 Usage Report
(Submit Report Quarterly)

Source Name: Praxair, Inc.
Source Address: 2251 Dickey Rd., East Chicago, Indiana 46312
Part 70 Permit No.: T089-31620-00435
Facility: Reformers No. 1, 2, 3, and 4 and Boiler No. 3
Parameter: CO Emissions
Limit: 191.1 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	CO Emissions for This Month (tons)	CO Emissions for Previous 11 Months (tons)	CO Emissions for 12-Month Period (tons)

- No deviation occurred in this quarter.
- Deviations 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 OPERATING PERMIT
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Praxair, Inc.
 Source Address: 2251 Dickey Rd., East Chicago, Indiana 46312
 Part 70 Permit No.: T089-31620-00435

Months: _____ **to** _____ **Year:** _____

<p>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".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> 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:

Indiana Department of Environmental Management
Office of Air Quality

Standards of Performance for Small Industrial-Commercial- Institutional Steam Generating Units

[40 CFR Part 60, Subpart Dc]

Source Name:	Praxair
Source Location:	2551 Dickey Rd., East Chicago, IN 46312
County:	Lake
SIC Code:	2813
2 nd Renewal Operating Permit No.:	T089-31620-00435

Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under §60.14.

(e) Heat recovery steam generators that are associated with combined cycle gas turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/hr) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/hr) heat input of fossil fuel. If the 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 gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part).

(f) Any facility covered by subpart AAAA of this part is not subject by this subpart.

(g) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject by this subpart.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17) or diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO₂ control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO₂ emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO₂.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.42c Standard for sulfur dioxide (SO₂).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO₂ emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO₂ emissions limit or the 90 percent SO₂ reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO₂ emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 50 percent (0.50) of the potential SO₂ emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO₂ reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the following:

(1) The percent of potential SO₂emission rate or numerical SO₂emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

- (i) Combusts coal in combination with any other fuel;
- (ii) Has a heat input capacity greater than 22 MW (75 MMBtu/hr); and
- (iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E_s= SO₂emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a= 520 ng/J (1.2 lb/MMBtu);

K_b= 260 ng/J (0.60 lb/MMBtu);

K_c= 215 ng/J (0.50 lb/MMBtu);

H_a= Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b= Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H_c= Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO₂emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

- (1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO₂emission rate; and
- (2) Emissions from the pretreated fuel (without either combustion or post-combustion SO₂control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.

- (1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).
- (2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).
- (3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(i) The SO₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that can combust coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) 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 that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO₂ emissions is not subject to the PM limit in this section.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and §60.8(b), performance tests required under §60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO₂ emission limits under §60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO₂ emission limits under §60.42c is based on the average percent reduction and the average SO₂ emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO₂ emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO₂ emission rate (E_{ho}) and the 30-day average SO₂ emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate E_{ao} when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho} (E_{ho0}) is used in Equation 19–19 of Method 19 of appendix A of this part to compute the adjusted E_{ao} (E_{ao0}). The E_{ho0} is computed using the following formula:

$$E_{ho0} = \frac{E_{ho} - E_w(1 - X_1)}{X_1}$$

Where:

E_{ho0} = Adjusted E_{ho}, ng/J (lb/MMBtu);

E_{ho} = Hourly SO₂ emission rate, ng/J (lb/MMBtu);

E_w = SO₂ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$.

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters E_w or X_k if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO₂ emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO₂ emission rate is computed using the following formula:

$$\%P_s = 100 \left(1 - \frac{\%R_g}{100} \right) \left(1 - \frac{\%R_f}{100} \right)$$

Where:

$\%P_s$ = Potential SO₂ emission rate, in percent;

$\%R_g$ = SO₂ removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$ = SO₂ removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the $\%P_s$, an adjusted $\%R_g$ ($\%R_{g0}$) is computed from E_{ao0} from paragraph (e)(1) of this section and an adjusted average SO₂ inlet rate (E_{ai0}) using the following formula:

$$\%R_{g0} = 100 \left(1 - \frac{E_{ao0}}{E_{ai0}} \right)$$

Where:

$\%R_{g0}$ = Adjusted $\%R_g$, in percent;

E_{ao0} = Adjusted E_{ao} , ng/J (lb/MMBtu); and

E_{ai0} = Adjusted average SO₂ inlet rate, ng/J (lb/MMBtu).

(ii) To compute E_{ai0} , an adjusted hourly SO₂ inlet rate (E_{hi0}) is used. The E_{hi0} is computed using the following formula:

$$E_{hi0} = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

E_{hi0} = Adjusted E_{hi} , ng/J (lb/MMBtu);

E_{hi} = Hourly SO_2 inlet 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 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. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$; and

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2).

(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2 standards under §60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$ and E_{no} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating $\%P_s$ or E_{no} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3A or 3B of appendix A–2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A–3 of this part or 17 of appendix A–6 of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O₂) or carbon dioxide (CO₂) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O₂ or CO₂ measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A–4 of this part shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under §60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (c)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (c)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (c)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O₂(or CO₂) 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 O₂ (or CO₂), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(14) After July 1, 2011, within 90 days after the date of completing each performance evaluation required by paragraph (c)(11) of this section, the owner or operator of the affected facility must either submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at <http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main> or mail a copy to: United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; Mail Code: D243-01; RTP, NC 27711.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/hr).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011]

§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO₂emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO₂concentrations and either O₂or CO₂concentrations at the outlet of the SO₂control device (or the outlet of the steam generating unit if no SO₂control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO₂concentrations and either O₂or CO₂concentrations at both the inlet and outlet of the SO₂control device.

(b) The 1-hour average SO₂emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO₂emission rate must be based on at least 30

minutes of operation, and shall be calculated using the data points required under §60.13(h)(2). Hourly SO₂ emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under §60.42c, the span value of the SO₂ CEMS at the inlet to the SO₂ control device shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted, and the span value of the SO₂ CEMS at the outlet from the SO₂ control device shall be 50 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of §60.42c, the span value of the SO₂ CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according to the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO₂ input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO₂ at the inlet or outlet of the SO₂ 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 SO₂ and CO₂ measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, as described under §60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), (f), and (g) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in §60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or 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;

(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;

(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

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.* , 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.* , 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in §60.45c(a)(8).

(ii) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO₂ or PM emissions and that are subject to an opacity standard in §60.43c(c) are not required to operate a COMS if they follow the applicable procedures in §60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.45c(c). The CEMS specified in paragraph §60.45c(c) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO₂, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that uses a bag leak detection system to monitor the performance of a fabric filter (baghouse) according to the most recent requirements in section §60.48Da of this part is not required to operate a COMS.

(g) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and 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.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011]

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO₂ emission limits of §60.42c, or the PM or opacity limits of §60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) In addition to the applicable requirements in §60.7, the owner or operator of an affected facility subject to the opacity limits in §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

(d) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

- (1) Calendar dates covered in the reporting period.
 - (2) Each 30-day average SO₂ emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.
 - (3) Each 30-day average percent of potential SO₂ emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.
 - (4) Identification of any steam generating unit operating days for which SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.
 - (5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.
 - (6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.
 - (7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.
 - (8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.
 - (9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.
 - (10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.
 - (11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.
- (f) Fuel supplier certification shall include the following information:
- (1) For distillate oil:
 - (i) The name of the oil supplier;
 - (ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and
 - (iii) The sulfur content or maximum sulfur content of the oil.
 - (2) For residual oil:
 - (i) The name of the oil supplier;
 - (ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;
 - (iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and
 - (iv) The method used to determine the sulfur content of the oil.
 - (3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO₂ standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

Attachment B:

Indiana Department of Environmental Management
Office of Air Quality

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

[40 CFR Part 63, Subpart ZZZZ]

Source Name:	Praxair
Source Location:	2551 Dickey Rd., East Chicago, IN 46312
County:	Lake
SIC Code:	2813
2 nd Renewal Operating Permit No.:	T089-31620-00435

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.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

§ 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.

(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;

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;

(vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or

(viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

- (2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
- (3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;
- (4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
- (5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;
- (6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
- (7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[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]

§ 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 and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.
- (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]

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 must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[75 FR 51589, Aug. 20, 2010]

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

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 1b and Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

[75 FR 51589, Aug. 20, 2010]

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 and operating limitations 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]

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.
- (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.
- (e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

C_i = concentration of CO or formaldehyde at the control device inlet,

C_o = concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

- (2) You must normalize the carbon monoxide (CO) 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 (CO₂). If pollutant concentrations are to be corrected to 15 percent oxygen and CO₂ concentration is

measured in lieu of oxygen concentration measurement, a CO₂ correction factor is needed. Calculate the CO₂ 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:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO₂ 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, dsm³ / J (dscf/10⁶ Btu).

F_c = Ratio of the volume of CO₂ produced to the gross calorific value of the fuel from Method 19, dsm³ / J (dscf/10⁶ Btu).

(ii) Calculate the CO₂ correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{co_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

X_{co2} = CO₂ correction factor, percent.

5.9 = 20.9 percent O₂ - 15 percent O₂, the defined O₂ correction value, percent.

(iii) Calculate the NO_x and SO₂ gas concentrations adjusted to 15 percent O₂ using CO₂ as follows:

$$C_{adj} = C_d \frac{X_{co_2}}{\%CO_2} \quad (\text{Eq. 4})$$

Where:

%CO₂ = Measured CO₂ 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]

§ 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 oxygen or CO₂ at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(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 CO₂ 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 (5) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

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

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

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

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

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

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

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

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

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

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

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

(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 landfill or digester gas stationary RICE located at an area source of HAP emissions;
- (7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
- (8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
- (9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and
- (10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.
- (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 (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.
- (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 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later.

The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[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]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

- (a) You must demonstrate initial compliance with each emission and operating limitation 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.

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 and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation 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) [Reserved]

(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) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[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]

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).

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

§ 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.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010]

§ 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) or (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 engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

(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]

§ 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:

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.

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 of 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 CO₂.

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 internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f). All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

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 CO₂.

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 CO₂, 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_3H_8 .

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 P 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]

Table 1ato 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	

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

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

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75	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

<p>percent or more, if applicable) and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O₂ and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O₂ and using NSCR.</p>	<p>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.</p>
<p>2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O₂ and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O₂ and not using NSCR.</p>	<p>Comply with any operating limitations approved by the Administrator.</p>

[76 FR 12867, Mar. 9, 2011]

Table 2ato 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 ₂ until 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	
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	

¹Sources 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 2bto Subpart ZZZZ of Part 63— Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

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

For each . . .	You must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F. ¹
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust	Comply with any operating limitations approved by the Administrator.

and not using an oxidation catalyst	
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¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

Table 2cto Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE. ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ² b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ³
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; ² b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O ₂	

4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE. ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ²	
	b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ²	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. ³	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; ²	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first;	

	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary. ³	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O ₂	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O ₂	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O ₂	
12. Non-emergency, non-black start landfill or digester gas-fired stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O ₂	

¹If 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.

²Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

³Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 51593, Aug. 20, 2010]

Table 2d to Subpart ZZZZ of Part 63— Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods	During periods of startup you must . . .
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	of startup . . .	
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; ¹	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE. ²	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ¹	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

<p>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</p>	<p>a. Change oil and filter every 500 hours of operation or annually, whichever comes first;¹ b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</p>	
<p>6. Non-emergency, non-black start 2SLB stationary RICE</p>	<p>a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;¹</p>	
	<p>b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and</p>	
	<p>c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.</p>	
<p>7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP</p>	<p>a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;¹</p>	
	<p>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and</p>	
	<p>c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.</p>	
<p>8. Non-emergency, non-black start 4SLB stationary RICE >500 HP</p>	<p>a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O₂; or</p>	

	b. Reduce CO emissions by 93 percent or more.	
9. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
10. Non-emergency, non-black start 4SRB stationary RICE >500 HP	a. Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15 percent O ₂ ; or	
	b. Reduce formaldehyde emissions by 76 percent or more.	
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

¹Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

²If 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.

[75 FR 51595, Aug. 20, 2010]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE with a brake horsepower >500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower ≥250 located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower >500 located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually. ¹
2. 4SRB stationary RICE with a brake horsepower ≥5,000 located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually. ¹
3. Stationary RICE with a brake horsepower >500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually. ¹
4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year and are limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 5 years, whichever comes first.

¹After 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.

[75 FR 51596, Aug. 20, 2010]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . ..	Complying with the requirement to ...	You must ...	Using ...	According to the following requirements ...
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O ₂ at the inlet and outlet of the control device; and	(1) Portable CO and O ₂ analyzer	(a) Using ASTM D6522–00 (2005) ^a (incorporated by reference, see §63.14). Measurements to determine O ₂ must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O ₂ analyzer	(a) Using ASTM D6522–00 (2005) ^{ab} (incorporated by reference, see §63.14) or Method 10 of 40 CFR appendix A. The CO concentration must be at 15 percent O ₂ , dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O ₂ at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00m (2005)	(a) Measurements to determine O ₂ concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03, ^c provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or	(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.

			equal to 70 and less than or equal to 130	
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.
		ii. Determine the O ₂ concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00 (2005)	(a) Measurements to determine O ₂ concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03, ^c provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. Measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00 (2005), ^a Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03	(a) CO Concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour longer runs.

^aYou may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM-D6522-00 (2005) may be used to test both CI and SI stationary RICE.

^bYou may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.

^cYou may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

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

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

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP,	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

<p>and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>		<p>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.</p>
<p>5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Reduce CO emissions, and using a CEMS</p>	<p>i. You have installed a CEMS to continuously monitor CO and either O₂ or CO₂ at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.</p>
<p>6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Limit the concentration of CO, and using a CEMS</p>	<p>i. You have installed a CEMS to continuously monitor CO and either O₂ or CO₂ at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and</p>
		<p>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.</p>
<p>7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Reduce formaldehyde emissions and using NSCR</p>	<p>i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the</p>

		requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of formaldehyde and not using NSCR	i. The average formaldehyde concentration determined from the initial performance test is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O ₂ , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
11. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE	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

250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	exhaust and not using oxidation catalyst or NSCR	formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO or formaldehyde emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
13. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O ₂ , dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.

[76 FR 12867, Mar. 9, 2011]

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

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

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; ^a and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the

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

<p>5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP</p>	<p>a. Reduce formaldehyde emissions and not using NSCR</p>	<p>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</p>
		<p>iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p>
<p>6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP</p>	<p>a. Reduce formaldehyde emissions</p>	<p>Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved.^a</p>
<p>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</p>	<p>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR</p>	<p>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</p>
		<p>iii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p>
		<p>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.</p>
<p>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</p>	<p>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR</p>	<p>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</p>
		<p>iii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the</p>

		performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary	a. Reduce CO or formaldehyde emissions, or limit the concentration	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde,

<p>RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE</p>	<p>of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR</p>	<p>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</p>
		<p>ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and</p>
		<p>iii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p>
<p>12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year</p>	<p>a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR</p>	<p>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</p>
		<p>ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and</p>
		<p>iii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p>
		<p>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.</p>
<p>13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year</p>	<p>a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using an oxidation catalyst or NSCR</p>	<p>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</p>

		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.

^aAfter 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.

[76 FR 12870, Mar. 9, 2011]

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 $100 \leq \text{HP} \leq 500$ located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or c. If you had a malfunction during the reporting period, the information in	

		<p>§63.6650(c)(4)</p> <p>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</p> <p>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.</p> <p>i. Semiannually according to the requirements in §63.6650(b).</p> <p>i. Semiannually according to the requirements in §63.6650(b).</p>	
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	<p>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</p> <p>i. Annually, according to the requirements in §63.6650.</p>	
		<p>b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and</p> <p>i. See item 2.a.i.</p>	
		<p>c. Any problems or errors suspected with the meters.</p> <p>i. See item 2.a.i.</p>	

[75 FR 51603, Aug. 20, 2010]

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.	
§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	Yes.	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes.	
§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.
§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.	
§63.10(b)(1)	Record retention	Yes.	
§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

Attachment C:

Indiana Department of Environmental Management
Office of Air Quality

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

[40 CFR Part 63, Subpart VVVVVV]

Source Name:	Praxair
Source Location:	2551 Dickey Rd., East Chicago, IN 46312
County:	Lake
SIC Code:	2813
2 nd Renewal Operating Permit No.:	T089-31620-00435

Source: Source: 74 FR 56041, Oct. 29, 2009, unless otherwise noted.

§ 63.11494 What are the applicability requirements and compliance dates?

(a) Except as specified in paragraph (c) of this section, you are subject to this subpart if you own or operate a chemical manufacturing process unit (CMPU) that meets the conditions specified in paragraphs (a)(1) through (3) of this section.

(1) The CMPU uses as feedstocks, generates as byproducts, or produces as products any of the hazardous air pollutants (HAP) listed in Table 1 to this subpart (Table 1 HAP).

(2) The CMPU is located at an area source of HAP emissions.

(3) Table 1 HAP are present in feedstocks, or Table 1 HAP are generated or produced in the CMPU and are present in process fluid, at concentrations greater than 0.1 percent for carcinogens, as defined by the Occupational Safety and Health Administration at 29 CFR 1910.1200(d)(4), and greater than 1.0 percent for noncarcinogens. To determine the Table 1 HAP content of feedstocks, you may rely on formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet (MSDS) for the material. If the concentration in an MSDS is presented as a range, use the upper bound of the range.

(b) A CMPU includes all process vessels, equipment, and activities necessary to operate a chemical manufacturing process that produces a material or a family of materials described by North American Industry Classification System (NAICS) code 325. A CMPU consists of one or more unit operations and any associated recovery devices. A CMPU also includes each storage tank, transfer operation, surge control vessel, and bottoms receiver associated with the production of such NAICS code 325 materials.

(c) This subpart does not apply to the operations specified in paragraphs (c)(1) through (6) of this section.

(1) Affected sources under the following chemical manufacturing area source categories listed pursuant to Clean Air Act (CAA) section 112(c)(3) and 112(k)(3)(B)(ii) that are subject to area source standards under this part:

(i) Manufacture of Paint and Allied Products, subject to subpart CCCCCC of this part.

(ii) Mercury Emissions from Mercury Cell Chlor-Alkali Plants, subject to subpart IIIII of this part.

(iii) Polyvinyl Chloride and Copolymers Production, subject to subpart DDDDDD of this part.

(iv) Acrylic and Modacrylic Fibers Production, subject to subpart LLLLLL of this part.

(v) Carbon Black Production, subject to subpart MMMMMM of this part.

(vi) Chemical Manufacturing Area Sources: Chromium Compounds, subject to subpart NNNNNN of this part.

(2) Production of the following chemical manufacturing materials described in NAICS code 325:

(i) Manufacture of radioactive elements or isotopes, radium chloride, radium luminous compounds, strontium, uranium.

(ii) Manufacture of photographic film, paper, and plate where the material is coated with or contains chemicals. This subpart does apply to the manufacture of photographic chemicals.

(iii) Fabricating operations (such as spinning or compressing a solid polymer into its end use); compounding operations (in which blending, melting, and resolidification of a solid polymer product occurs for the purpose of incorporating additives, colorants, or stabilizers); and extrusion and drawing operations (converting an already produced solid polymer into a different shape by melting or mixing the polymer and then forcing it or pulling it through an orifice to create an extruded product). An operation is subject if it involves processing with Table 1 HAP solvent or if an intended purpose of the operation is to remove residual Table 1 HAP monomer.

(iv) Manufacture of chemicals classified in NAICS code 325222, 325314, 325413, or 325998.

(3) Research and development facilities, as defined in CAA section 112(c)(7).

(4) Quality assurance/quality control laboratories.

(5) Ancillary activities, as defined in § 63.11502(b).

(6) Metal HAP in structures or existing as articles as defined in 40 CFR 372.3.

(d) This subpart applies to each new or existing affected source. The affected source is the facility-wide collection of CMPUs and each heat exchange system and wastewater system associated with a CMPU that meets the criteria specified in paragraphs (a) and (b) of this section. A CMPU using only Table 1 organic HAP is required to control only total CAA section 112(b) organic HAP. A CMPU using only Table 1 metal HAP is required to control only total CAA section 112(b) metal HAP.

(1) An affected source is an existing source if you commenced construction or reconstruction of the affected source before October 6, 2008.

(2) An affected source is a new source if you commenced construction or reconstruction of the affected source on or after October 6, 2008.

(e) Any source that was a major source and installed a control device on a CMPU after November 15, 1990, and, as a result, became an area source under 40 CFR part 63 is required to obtain a permit under 40 CFR part 70 or 40 CFR part 71. Otherwise, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

(f) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions in this subpart no later than October 29, 2012.

(g) If you start up a new affected source on or before October 29, 2009, you must achieve compliance with the applicable provisions of this subpart no later than October 29, 2009.

(h) If you start up a new affected source after October 29, 2009, you must achieve compliance with the provisions in this subpart upon startup of your affected source.

EFFECTIVE DATE NOTE: At 75 FR 77762, Dec. 14, 2010, in § 63.11494, paragraph (e) was suspended, effective Dec. 14, 2010, through Mar. 14, 2011. At 76 FR 13515, Mar. 14, 2011, paragraph (e) was further suspended indefinitely.

Standards and Compliance Requirements

§ 63.11495 What are the management practices and other requirements?

(a) *Management practices.* If you have a CMPU subject to this subpart, you must comply with paragraphs (a)(1) through (5) of this section.

(1) Each process vessel in organic HAP service or metal HAP service must be equipped with a cover or lid that must be in place at all times when the vessel contains HAP, except for material addition and sampling.

(2) You must use any of the methods listed in paragraphs (a)(2)(i) through (iv) of this section to control total organic HAP emissions from transfer of liquids containing Table 1 organic HAP to tank trucks or railcars. You are not required to comply with this paragraph (a)(2) if you have notified the Administrator in your initial notification that a material is reactive or resinous, and you will not be able to comply with any of the methods in paragraphs (a)(2)(i) through (iv) of this section for the transfer of such material.

(i) Use submerged loading or bottom loading.

(ii) Route emissions to a fuel gas system or process in accordance with § 63.982(d) of subpart SS.

(iii) Vapor balance back to the storage tank or another storage tank connected by a common header.

(iv) Vent through a closed-vent system to a control device.

(3) You must conduct inspections of process vessels and equipment for each CMPU in organic HAP service or metal HAP service at least quarterly to demonstrate compliance with these requirements and to determine that the process vessels and equipment are sound and free of leaks. For these inspections, detection methods incorporating sight, sound, or smell are acceptable. The inspection must include direct and proximal (thorough) inspection of all areas of potential leak within the CMPU. Indications of a leak identified using such method constitutes a leak unless you demonstrate that the indications of a leak are due to a condition other than loss of HAP. Alternatively, Method 21 of 40 CFR part 60, appendix A-7, with a leak definition of 500 parts per million by volume (ppmv), may be used for detection of leaks or to determine if the indications of a leak are due to a condition other than loss of HAP. If indications of a leak are determined not to be HAP in one quarterly monitoring period, you must still perform the inspection and demonstration in the next quarterly monitoring period. Inspections must be conducted while the subject CMPU is operating. No inspection is required in a calendar quarter during which the subject CMPU does not operate for the entire calendar quarter and is not in organic HAP service or metal HAP service. If the CMPU operates at all during a calendar quarter, an inspection is required.

(4) You must repair any leak within 15 calendar days after detection of the leak, or document the reason for any delay of repair. For the purposes of this paragraph (a)(4), a leak will be considered "repaired" if a condition specified in paragraph (a)(4)(i), (ii), or (iii) of this section is met.

(i) The visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated, or

(ii) No bubbles are observed at potential leak sites during a leak check using soap solution, or

(iii) The system will hold a test pressure.

(5) You must keep records of the dates and results of each inspection event, the dates of equipment repairs, and, if applicable, the reasons for any delay in repair.

(b) *Small heat exchange systems.* For each heat exchange system subject to this subpart with a cooling water flow rate less than 8,000 gallons per minute (gal/min) and not meeting one or more of the conditions in § 63.104(a), you must comply with paragraphs (b)(1) through (3) of this section, or as an alternative, you may comply with any one of the requirements in Item 1.a or 1.b of Table 8 to this subpart.

(1) You must develop and operate in accordance with a heat exchange system inspection plan. The plan must describe the inspections to be performed that will provide evidence of hydrocarbons in the cooling water. Among other things, inspections may include checks for visible floating hydrocarbon on the water, hydrocarbon odor, discolored water, and/or chemical addition rates. You must conduct inspections at least once per quarter, even if the previous inspection determined that the indications of a leak did not constitute a leak as defined by § 63.104(b)(6).

(2) You must perform repairs to eliminate the leak and any indications of a leak or demonstrate that the HAP concentration in the cooling water does not constitute a leak, as defined by § 63.104(b)(6), within 45 calendar days after indications of the leak are identified, or you must document the reason for any delay of repair in your next semiannual compliance report.

(3) You must keep records of the dates and results of each inspection, documentation of any demonstrations that indications of a leak do not constitute a leak, the dates of leak repairs, and, if applicable, the reasons for any delay in repair.

(c) Startup, shutdown, and malfunction (SSM) provisions in subparts that are referenced in paragraphs (a) and (b) of this section do not apply.

§ 63.11496 What are the standards and compliance requirements for process vents?

(a) *Organic HAP emissions from batch process vents.* You must comply with the requirements in paragraphs (a)(1) through (4) of this section for organic HAP emissions from your batch process vents for each CMPU using Table 1 organic HAP. If uncontrolled organic HAP emissions from all batch process vents from a CMPU subject to this subpart are equal to or greater than 10,000 pounds per year (lb/yr), you must also comply with the emission limits and other requirements in Table 2 to this subpart.

(1) You must determine the sum of actual organic HAP emissions from all of your batch process vents within a CMPU subject to this subpart using process knowledge, engineering assessment, or test data. Emissions for a standard batch in a process may be used to represent actual emissions from each batch in that process. You must maintain records of the calculations. Calculations of annual emissions are not required if you meet the emission standards for batch process vents in Table 2 to this subpart.

(2) As an alternative to calculating actual emissions for each affected CMPU at your facility, you may elect to estimate emissions for each CMPU based on the emissions for the worst-case CMPU. The worst-case CMPU means the CMPU at the affected source with the highest organic HAP emissions per batch. The worst-case emissions per batch are used with the number of batches run for other affected CMPU. Process knowledge, engineering assessment, or test data may be used to identify the worst-case process. You must keep records of the information and procedures used to identify the worst-case process.

(3) If your current estimate is that emissions from batch process vents from a CMPU are less than 10,000 pounds per year (lb/yr), then you must keep a record of the number of batches of each process operated per month. Also, you must reevaluate your total emissions from batch process vents prior to making any process changes that affect emission calculations in paragraphs (a)(1) and (2) of this section. If projected emissions increase to 10,000 lb/yr or more, you must be in compliance options for batch process vents in Table 2 to this subpart upon initiating operation under the new operating conditions. You must maintain records documenting the results of all updated emissions calculations.

(4) As an alternative to determining the HAP emissions, you may elect to demonstrate that the amount of organic HAP used in the process is less than 10,000 lb/yr. You must keep monthly records of the organic HAP usage.

(b) *Organic HAP emissions from continuous process vents.* You must comply with the requirements in paragraphs (b)(1) through (3) of this section for organic HAP emissions from your continuous process vents for each CMPIU subject to this subpart using Table 1 organic HAP. If the total resource-effectiveness (TRE) index value for a continuous process vent is less than or equal to 1.0, you must also comply with the emission limits and other requirements in Table 3 to this subpart.

(1) You must determine the TRE index value according to the procedures in § 63.115(d), except as specified in paragraphs (b)(1)(i) through (iii) of this section.

(i) You are not required to calculate the TRE index value if you control emissions in accordance with Table 3 to this subpart.

(ii) Sections 63.115(d)(1)(i) and (ii) are not applicable for the purposes of this paragraph (b)(1)(ii).

(iii) You may assume the TRE for a vent stream is > 1.0 if the amount of organic HAP emitted in the vent stream is less than 0.1 pound per hour.

(2) If the current TRE index value is greater than 1, you must recalculate the TRE index value before you make any process or operational change that affects parameters in the calculation. If the recalculated TRE is less than or equal to 1.0, then you must comply with one of the compliance options for continuous process vents in Table 3 to this subpart before operating under the new operating conditions. You must maintain records of all TRE calculations.

(3) If a recovery device as defined in § 63.11502 is used to maintain the TRE index value at a level greater than 1.0 and less than or equal to 4.0, you must comply with § 63.982(e) and the requirements specified therein.

(c) *Combined streams.* If you combine organic HAP emissions from batch process vents and continuous process vents, you must comply with the more stringent standard in Table 2 or Table 3 to this subpart that applies to any portion of the combined stream, or you must comply with Table 2 for the batch process vents and Table 3 for the continuous process vents. The TRE index value for continuous process vents and the annual emissions from batch process vents shall be determined for the individual streams before they are combined, and prior to any control, in order to determine the most stringent applicable requirements.

(d) *Combustion of halogenated streams.* If you use a combustion device to comply with the emission limits for organic HAP from a halogenated batch process vent or a halogenated continuous process vent, you must use a halogen reduction device to meet the emission limit in either paragraph (d)(1) or (d)(2) of this section and in accordance with § 63.994 and the requirements referenced therein.

(1) Reduce overall emissions of hydrogen halide and halogen HAP after the combustion device by greater than or equal to 95 percent, to less than or equal to 0.45 kilograms per hour (kg/hr), or to a concentration less than or equal to 20 parts per million by volume (ppmv).

(2) Reduce the halogen atom mass emission rate before the combustion device to less than or equal to 0.45 kg/hr or to a concentration less than or equal to 20 ppmv.

(e) *Alternative standard for organic HAP.* Exceptions to the requirements for the alternative standard requirements specified in Tables 2 and 3 to this subpart and § 63.2505 are specified in paragraphs (e)(1) through (5) of this section.

(1) When § 63.2505 of subpart FFFF refers to Tables 1 and 2 to subpart FFFF and §§ 63.2455 and 63.2460, it means Tables 2 and 3 to this subpart and § 63.11496(a) and (b).

(2) Sections 63.2505(a)(2) and (b)(9) do not apply.

(3) When § 63.2505(b) references § 63.2445 it means § 63.11494(f) through (h).

(4) The requirements for hydrogen halide and halogen HAP apply only to hydrogen halide and halogen HAP generated in a combustion device that is used to comply with the alternative standard.

(5) When § 63.1258(b)(5)(ii)(B)(2) refers to a "notification of process change" report, it means the semi-annual compliance report required by § 63.11501(d) for the purposes of this subpart.

(f) *Emissions from metal HAP process vents.* You must comply with the requirements in paragraphs (f)(1) and (2) of this section for metal HAP emissions from each CMPU using Table 1 metal HAP. If the collective uncontrolled metal HAP emissions from all metal HAP process vents from a CMPU are equal to or greater than 400 lb/yr, then you must also comply with the emission limits and other requirements in Table 4 to this subpart and in paragraph (f)(3), (4), or (5) of this section.

(1) You must determine the sum of metal HAP emissions from all metal HAP process vents within a CMPU subject to this subpart, except you are not required to determine the annual emissions if you control the metal HAP process vents within a CMPU in accordance with Table 4 to this subpart or if you determine your total metal HAP usage in the process unit is less than 400 lb/yr. To determine the mass emission rate you may use process knowledge, engineering assessment, or test data. You must keep records of the emissions calculations.

(2) If your current estimate is that total uncontrolled metal HAP emissions from a CMPU subject to this subpart are less than 400 lb/yr, then you must keep records of either the number of batches operated per month (batch vents) or the process operating hours (continuous vents). Also, you must reevaluate your total emissions before you make any process or operational change that affects emissions of metal HAP. If projected emissions increase to 400 lb/yr or more, then you must be in compliance with one of the options for metal HAP process vents in Table 4 to this subpart upon initiating operation under the new operating conditions. You must keep records of all recalculated emissions determinations.

(3) If you have an existing source subject to the HAP metals emission limits specified in Table 4 to this subpart, you must comply with the initial compliance and monitoring requirements in paragraphs (f)(3)(i) through (iii) of this section. You must keep records of monitoring results to demonstrate continuous compliance.

(i) You must prepare a monitoring plan containing the information in paragraphs (f)(3)(i)(A) through (E) of this section. The plan must be maintained on-site and be available on request. You must operate and maintain the control device according to a site-specific monitoring plan at all times.

(A) A description of the device;

(B) Results of a performance test or engineering assessment conducted in accordance with paragraph (f)(3)(ii) of this section verifying the performance of the device for reducing HAP metals or particulate matter (PM) to the levels required by this subpart;

(C) Operation and maintenance plan for the control device (including a preventative maintenance schedule consistent with the manufacturer's instructions for routine and long-term maintenance) and continuous monitoring system.

(D) A list of operating parameters that will be monitored to maintain continuous compliance with the applicable emissions limits; and

(E) Operating parameter limits based on either monitoring data collected during the performance test or established in the engineering assessment.

(ii) You must conduct a performance test or an engineering assessment for each CMPU subject to a HAP metals emissions limit in Table 4 to this subpart and report the results in your Notification of Compliance Status (NOCS) report. If you own or operate an existing affected source, you are not required to conduct a performance test if a prior performance test was conducted within the 5 years prior to the effective date using the same methods specified in paragraph (f)(3)(iii) of this section and either no process changes have been made since the test, or if you can

demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes. For each performance test, sampling must be conducted at both the inlet and outlet of the control device, and the test must be conducted under representative process operating conditions.

(iii) If you elect to conduct a performance test, it must be conducted according to requirements in § 63.11410(j)(1). As an alternative to conducting a performance test using Method 5 or 5D to determine the concentration of PM, you may use Method 29 in 40 CFR part 60, appendix A-8 to determine the concentration of HAP metals. You have demonstrated initial compliance if the overall reduction of either HAP metals or total PM is equal to or greater than 95 percent.

(4) If you have a new source using a baghouse as a control device, you must install, operate, and maintain a bag leak detection system on all baghouses used to comply with the HAP metals emissions limit in Table 4 to this subpart. You must comply with the testing, monitoring, and recordkeeping requirements in § 63.11410(g), (i), and (j)(1), except you are not required to submit the monitoring plan required by § 63.11410(g)(2) for approval.

(5) If you have a new source using a control device other than a baghouse to comply with the HAP metals emission limits in Table 4 to this subpart, you must comply with the initial compliance and monitoring requirements in paragraphs (f)(3)(i) through (iii) of this section.

(g) *Exceptions and alternatives to 40 CFR part 63, subpart SS.* If you are complying with the emission limits and other requirements for continuous process vents in Table 3 to this subpart, the provisions in paragraphs (g)(1) through (7) and (9) of this section apply in addition to the provisions in 40 CFR part 63, subpart SS. If you are complying with the emission limits and other requirements for batch process vents in Table 2 to this subpart, the provisions in paragraphs (g)(1) through (8) of this section apply in addition to the provisions in subpart SS.

(1) *Requirements for performance tests.* The requirements specified in §§ 63.2450(g)(1) through (4) apply instead of or in addition to the requirements specified in 40 CFR part 63, subpart SS.

(2) *Design evaluation.* To determine initial compliance with a percent reduction emission limit, you may elect to conduct a design evaluation as specified in § 63.1257(a)(1) instead of a performance test as specified in subpart SS of this part 63. You must establish the value(s) and basis for the operating limits as part of the design evaluation. For continuous process vents, the design evaluation must be conducted at maximum representative operating conditions for the process, unless the Administrator specifies or approves alternate operating conditions. For batch process vents, the design evaluation must be conducted under worst-case conditions, as specified in § 63.2460(c)(2).

(3) *Outlet concentration correction for combustion devices.* When § 63.997(e)(2)(iii)(C) requires you to correct the measured concentration at the outlet of a combustion device to 3 percent oxygen if you add supplemental combustion air, the requirements in either paragraph (g)(3)(i) or (g)(3)(ii) of this section apply for the purposes of this subpart.

(i) You must correct the concentration in the gas stream at the outlet of the combustion device to 3 percent oxygen if you add supplemental gases, as defined in § 63.2550, to the vent stream, or;

(ii) You must correct the measured concentration for supplemental gases using Equation 1 of § 63.2460; you may use process knowledge and representative operating data to determine the fraction of the total flow due to supplemental gas.

(4) *Continuous parameter monitoring.* The provisions in § 63.2450(k)(1) through (6) apply in addition to the requirements for continuous parameter monitoring systems (CPMS) in subpart SS of this part 63, except as specified in paragraphs (g)(4)(i) and (ii) of this section.

(i) You may measure pH at least once per day for any halogen scrubber within a CPMU subject to this rule.

(ii) The requirements in § 63.2450(k)(6) to request approval of a procedure to monitor operating parameters does not apply for the purposes of this subpart. You must provide the required information in your NOCS report required by § 63.11501(b).

(5) *Startup, shutdown, malfunction (SSM)*. Section 63.998(b)(2)(iii), (b)(6)(i)(A), and (d)(3) do not apply for the purposes of this subpart.

(6) *Excused excursions*. Excused excursions, as defined in subpart SS of this part 63, are not allowed.

(7) *Energetics and organic peroxides*. If an emission stream contains energetics or organic peroxides that, for safety reasons, cannot meet an applicable emission limit specified in this subpart, then you must submit an application to the Administrator explaining why an undue safety hazard would be created if the air emission controls were installed, and you must describe the procedures that you will implement to minimize HAP emissions from these vent streams in lieu of the emission limitations in this section.

(8) *Additional requirements for batch process vents*. The provisions specified in § 63.2460(c) apply in addition to the provisions in subpart SS of this part 63, except as specified in paragraphs (g)(8)(i) through (iii) of this section.

(i) References to emission limits in Table 2 to subpart FFFF mean the emission limits in Table 2 to this subpart.

(ii) References to MCPU mean CMPU for purposes of this subpart.

(iii) Section 63.2460(c)(8) does not apply for the purposes of this subpart.

(9) *Parameter monitoring averaging periods*. Daily averages required in § 63.998(b)(3) apply at all times except during startup and shutdown. Separate averages shall be determined for each period of startup and period of shutdown.

(h) *Surge control vessels and bottoms receivers*. For each surge control vessel and bottoms receiver that meets the applicability criteria for storage tanks specified in Table 5 to this subpart, you must meet the emission limits and control requirements specified in Table 5 to this subpart.

(i) *Startup, shutdown, and malfunction (SSM)*. References to SSM provisions in subparts that are referenced in paragraphs (a) through (h) of this section or Tables 2 through 5 to this subpart do not apply.

§ 63.11497 What are the standards and compliance requirements for storage tanks?

(a) You must comply with the emission limits and other requirements in Table 5 to this subpart and in paragraph (b) of this section for organic HAP emissions from each of your storage tanks that meet the applicability criteria in Table 5 to this subpart.

(b) *Planned routine maintenance for a control device*. Operate in accordance with paragraphs (b)(1) through (3) of this section for periods of planned routine maintenance of a control device for storage tanks.

(1) Add no material to the storage tank during periods of planned routine maintenance.

(2) Limit periods of planned routine maintenance for each control device (or series of control devices) to no more than 240 hours per year (hr/yr), or submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr. The application must explain why the extension is needed and it must be submitted at least 60 days before the 240-hour limit will be exceeded.

(3) Keep records of the day and time at which planned routine maintenance periods begin and end, and keep a record of the type of maintenance performed.

(c) References to SSM provisions in subparts that are referenced in paragraphs (a) or (b) of this section or Table 5 to this subpart do not apply.

§ 63.11498 What are the standards and compliance requirements for wastewater systems?

(a) You must comply with the requirements in paragraph (a)(1) and (2) of this section and in Table 6, Item 1 to this subpart for all wastewater streams from a CMPU subject to this subpart. If the partially soluble HAP concentration in a wastewater stream is equal to or greater than 10,000 parts per million by weight (ppmw) and the wastewater stream contains a separate organic phase, then you must also comply with Table 6, Item 2 to this subpart for that wastewater stream. Partially soluble HAP are listed in Table 7 to this subpart.

(1) Except as specified in paragraph (a)(2) of this section, you must determine the total concentration of partially soluble HAP in each wastewater stream using process knowledge, engineering assessment, or test data. Also, you must reevaluate the concentration of partially soluble HAP if you make any process or operational change that affects the concentration of partially soluble HAP in a wastewater stream.

(2) You are not required to determine the partially soluble concentration in wastewater that is hard piped to a combustion unit or hazardous waste treatment unit, and you are not required to determine the partially soluble HAP concentration in wastewater that is hard piped to a storage tank from which the wastewater is collected and shipped offsite for treatment in a combustion unit or hazardous waste treatment unit.

(3) Separated organic material that is recycled to a process is no longer wastewater and no longer subject to the wastewater requirements after it has been recycled.

(b) The requirements in Item 2 of Table 6 to this subpart do not apply during periods of startup or shutdown. References to SSM provisions in subparts that are referenced in paragraph (a) of this section or Table 6 to this subpart do not apply.

§ 63.11499 What are the standards and compliance requirements for heat exchange systems?

(a) If the cooling water flow rate in your heat exchange system is equal to or greater than 8,000 gal/min and is not meeting one or more of the conditions in § 63.104(a), then you must comply with one of the requirements specified in Table 8 to this subpart.

(b) For equipment that meets Current Good Manufacturing Practice (CGMP) requirements of 21 CFR part 211, you may use the physical integrity of the reactor as the surrogate indicator of heat exchanger system leaks when complying with Item 1.a in Table 8 to this subpart.

(c) Any reference to SSM provisions in other subparts that are referenced in paragraphs (a) and (b) of this section or Table 8 to this subpart do not apply.

§ 63.11500 What compliance options do I have if part of my plant is subject to both this subpart and another Federal standard?

For any CMPU, heat exchange system, or wastewater system subject to the provisions of both this subpart and another rule, you may elect to comply only with the more stringent provisions as specified in paragraphs (a) through (d) of this section. You must consider all provisions of the rules, including monitoring, recordkeeping, and reporting. You must identify the subject CMPU, heat exchange system, and/or wastewater system, and the provisions with which you will comply in your NOCS report required by § 63.11501(b). You also must demonstrate in your NOCS report that each provision with which you will comply is at least as stringent as the otherwise applicable requirement in this subpart VVVVVV. You are responsible for making accurate determinations concerning the more stringent standards and noncompliance with this rule is not excused if it is later determined that your determination was in error and, as a result, you are violating this subpart. Compliance with this rule is your responsibility and the NOCS report does not alter or affect that responsibility.

(a) *Compliance with other subparts of this part 63.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of another subpart of 40 CFR part 63, then compliance with any of the requirements in the other subpart of this part 63 that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

(b) *Compliance with subparts of 40 CFR part 60.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of subpart VV, DDD, III, NNN, RRR, or YYY in 40 CFR part 60, then compliance with any of the requirements in 40 CFR part 60, subpart VV, DDD, III, NNN, RRR, or YYY that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

(c) *Compliance with subparts of 40 CFR part 61.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of subpart V, Y, BB, or FF of 40 CFR part 61, then compliance with any of the requirements in 40 CFR part 61, subpart V, Y, BB, or FF that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

(d) *Compliance with 40 CFR parts 260 through 272.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of 40 CFR parts 260 through 272, then compliance with any of the requirements in 40 CFR part 260 through 272 rule that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

§ 63.11501 What are the notification, recordkeeping, and reporting requirements?

(a) *General provisions.* You must meet the requirements of the General Provisions in 40 CFR part 63, subpart A, as shown in Table 9 to this subpart. The General Provisions in other parts do not apply except when a requirement in an overlapping standard, which you determined is at least as stringent as subpart VVVVVV and with which you have opted to comply, requires compliance with general provisions in another part.

(b) *Notification of compliance status (NOCS).* Your NOCS required by § 63.9(h) must include the following additional information as applicable:

(1) This certification of compliance, signed by a responsible official:

(i) "This facility complies with the management practices in § 63.11495."

(ii) "This facility complies with the requirements in § 63.11496 for HAP emissions from process vents."

(iii) "This facility complies with the requirements in § 63.11496 and § 63.11497 for surge control vessels, bottoms receivers, and storage tanks."

(iv) "This facility complies with the requirements in § 63.11498 to treat wastewater streams."

(v) "This facility complies with the requirements in § 63.11499 for heat exchange systems."

(2) If you comply with the alternative standard as specified in Table 2 to this subpart or Table 3 to this subpart, include the information specified in § 63.1258(b)(5), as applicable.

(3) If you establish an operating limit for a parameter that will not be monitored continuously in accordance with §§ 63.11496(g)(4) and 63.2450(k)(6), provide the information as specified in §§ 63.11496(g)(4) and 63.2450(k)(6).

(4) A list of all transferred liquids that are reactive or resinous materials, as defined in § 63.11502(b).

(5) If you comply with provisions in an overlapping rule in accordance with § 63.11500, identify the affected CMPU, heat exchange system, and/or wastewater system; provide a list of the specific provisions with which you will comply; and demonstrate that the provisions with which you will comply are at least as stringent as the otherwise applicable requirements, including monitoring, recordkeeping, and reporting requirements, in this subpart VVVVVV.

(c) *Recordkeeping.* You must maintain files of all information required by this subpart for at least 5 years following the date of each occurrence according to the requirements in § 63.10(b)(1). If you are subject, you must comply with the recordkeeping requirements of § 63.10(b)(2) and the applicable requirements specified in paragraphs (c)(1) through (7) of this section.

(1) For each CMPU subject to this subpart you must keep the records specified in paragraphs (c)(1)(i) through (vi) of this section, as applicable.

(i) Records of management practice inspections, repairs, and reasons for any delay of repair, as specified in § 63.11495(a)(5).

(ii) Records of small heat exchange system inspections, demonstrations of indications of leaks that do not constitute leaks, repairs, and reasons for any delay in repair as specified in § 63.11495(b).

(iii) If batch process vent emissions are less than 10,000 lb/yr for a CMPU, records of batch process vent emission calculations, as specified in § 63.11496(a)(1), the number of batches operated each month, as specified in § 63.11496(a)(3), and any updated emissions calculations, as specified in § 63.11496(a)(3). Alternatively, keep records of the worst-case processes or organic HAP usage, as specified in § 63.11496(a)(2) and (4), respectively.

(iv) Records of all TRE calculations for continuous process vents as specified in § 63.11496(b)(2).

(v) Records of metal HAP emission calculations as specified in § 63.11496(f)(1) and (2). If total uncontrolled metal HAP process vent emissions from a CMPU subject to this subpart are estimated to be less than 400 lb/yr, also keep records of either the number of batches per month or operating hours, as specified in § 63.11496(f)(2).

(vi) Records identifying wastewater streams and the type of treatment they receive, as specified in Table 6 to this subpart.

(2) For batch process vents subject to Table 2 to this subpart and continuous process vents subject to Table 3 to this subpart, you must keep records specified in paragraphs (c)(2)(i) or (ii) of this section, as applicable.

(i) If you route emissions to a control device other than a flare, keep records of performance tests, if applicable, as specified in § 63.998(a)(2)(ii) and (4), keep records of the monitoring system and the monitored parameters, as specified in § 63.998(b) and (c), and keep records of the closed-vent system, as specified in § 63.998(d)(1). If you use a recovery device to maintain the TRE above 1.0 for a continuous process vent, keep records of monitoring parameters during the TRE index value determination, as specified in § 63.998(a)(3).

(ii) If you route emissions to a flare, keep records of the flare compliance assessment, as specified in § 63.998(a)(1)(i), keep records of the pilot flame monitoring, as specified in § 63.998(a)(1)(ii) and (iii), and keep records of the closed-vent system, as specified in § 63.998(d)(1).

(3) For metal HAP process vents subject to Table 4 to this subpart, you must keep records specified in paragraphs (c)(3)(i) or (ii) of this section, as applicable.

(i) For a new source using a control device other than a baghouse and for any existing source, maintain a monitoring plan, as specified in § 63.11496(f)(3)(i), and keep records of monitoring results, as specified in § 63.11496(f)(3).

(ii) For a new source using a baghouse to control metal HAP emissions, keep a site-specific monitoring plan, as specified in §§ 63.11496(f)(4) and 63.11410(g), and keep records of bag leak detection systems, as specified in §§ 63.11496(f)(4) and 63.11410(g)(4).

(4) For each storage tank subject to Table 5 to this subpart, you must keep records specified in paragraphs (c)(4)(i) through (vi) of this section, as applicable.

(i) Keep records of the vessel dimension, capacity, and liquid stored, as specified in § 63.1065(a).

(ii) Keep records of each inspection of an internal floating roof, as specified in § 63.1065(b)(1).

(iii) Keep records of each seal gap measurement for external floating roofs, as specified in § 63.1065(b)(2), and keep records of inspections of external floating roofs, as specified in § 63.1065(b)(1).

(iv) If you vent emissions to a control device other than a flare, keep records of the operating plan and measured parameter values, as specified in §§ 63.985(c) and 63.998(d)(2).

(v) If you vent emissions to a flare, keep records of all periods of operation during which the flare pilot flame is absent, as specified in §§ 63.987(c) and 63.998(a)(1), and keep records of closed-vent systems, as specified in § 63.998(d)(1).

(vi) For periods of planned routine maintenance of a control device, keep records of the day and time at which each maintenance period begins and ends, and keep records of the type of maintenance performed, as specified in § 63.11497(b)(3).

(5) For each wastewater stream subject to Item 2 in Table 6 to this subpart, keep records of the wastewater stream identification and the disposition of the organic phase(s), as specified in Item 2 to Table 6 to this subpart.

(6) For each large heat exchange system subject to Table 8 to this subpart, you must keep records of detected leaks; the date the leak was detected; if demonstrated not to be a leak, the basis for that determination; the date of efforts to repair the leak; and the date the leak is repaired, as specified in Table 8 to this subpart.

(7) You must keep a record of all transferred liquids that are reactive or resinous materials, as defined in § 63.11502(b), and not included in the NOCS.

(d) *Semiannual Compliance Reports.* You must submit semiannual compliance reports that contain the information specified in paragraphs (d)(1) through (7) of this section, as applicable. Reports are required only for semiannual periods during which you experienced any of the events described in paragraphs (d)(1) through (7) of this section.

(1) *Deviations.* You must clearly identify any deviation from the requirements of this subpart.

(2) *Delay of repair for a large heat exchange system.* You must include the information specified in § 63.104(f)(2) each time you invoke the delay of repair provisions for a heat exchange system with a cooling water flow rate equal to or greater than 8,000 gal/min.

(3) *Delay of leak repair.* You must provide the following information for each delay of leak repair beyond 15 days for any process equipment, storage tank, surge control vessel, bottoms receiver, and each delay of leak repair beyond 45 days for any heat exchange system with a cooling water flow rate less than 8,000 gal/min: information on the date the leak was identified, the reason for the delay in repair, and the date the leak was repaired.

(4) *Process change.* You must report each process change that affects a compliance determination and submit a new certification of compliance with the applicable requirements in accordance with the procedures specified in paragraph (b) of this section.

(5) *Data for the alternative standard.* If you comply with the alternative standard, as specified in Table 2 to this subpart or Table 3 to this subpart, report the information required in § 63.1258(b)(5).

(6) *Overlapping rule requirements.* Report any changes in the overlapping provisions with which you comply.

(7) *Reactive and resinous materials.* Report any transfer of liquids that are reactive or resinous materials, as defined in § 63.11502(b), and not included in the NOCS.

Other Requirements and Information

§ 63.11502 What definitions apply to this subpart?

(a) The following terms used in this subpart have the meaning given them in the CAA, § 63.2, subpart SS (§ 63.981), subpart WW (§ 63.1061), 40 CFR 60.111b, subpart F (§ 63.101), subpart G (§ 63.111), subpart FFFF (§ 63.2550), as specified after each term:

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Permit Reviewer: James Mackenzie

Administrator (§ 63.2)
Article (40 CFR 372.3)
Boiler (§ 63.111)
Bottoms receiver (§ 63.2550)
CAA (§ 63.2)
Closed-vent system (§ 63.981)
Combustion device (§ 63.111)
Commenced (§ 63.2)
Compliance date (§ 63.2)
Container (§ 63.111)
Continuous monitoring system (§ 63.2)
Distillation unit (§ 63.111)
Emission standard (§ 63.2)
EPA (§ 63.2)
Family of materials (§ 63.2550)
Fill or filling (§ 63.111)
Floating roof (§ 63.1061)
Fuel gas system (§ 63.981)
Halogen atoms (§ 63.2550)
Halogenated vent stream (§ 63.2550)
Halogens and hydrogen halides (§ 63.2550)
Hazardous air pollutant (§ 63.2)
Heat exchange system (§ 63.101)
Incinerator (§ 63.111)
Maintenance wastewater (§ 63.2550)
Major source (§ 63.2)
Maximum true vapor pressure (§ 63.111)
Oil-water separator or organic-water separator (§ 63.111)
Operating permit (§ 63.101)
Owner or operator (§ 63.2)
Performance test (§ 63.2)
Permitting authority (§ 63.2)
Process condenser (§ 63.2550)

Process heater (§ 63.111)

Process tank (§ 63.2550)

Process wastewater (§ 63.101)

Reactor (§ 63.111)

Responsible official (§ 63.2)

State (§ 63.2)

Supplemental gases (§ 63.2550)

Surge control vessel (§ 63.2550)

Test method (§ 63.2)

Unit operation (§ 63.101)

(b) All other terms used in this subpart shall have the meaning given them in this section. If a term is defined in the CAA, § 63.2, subpart SS (§ 63.981), subpart WW (§ 63.1061), 40 CFR 60.111b, subpart F (§ 63.101), subpart G (§ 63.111), or subpart FFFF (§ 63.2550), and in this section, it shall have the meaning given in this section for purposes of this subpart.

Ancillary activities means boilers, incinerators, and process heaters not used to comply with the emission standards in §§ 63.11495 through 63.11500, chillers and other refrigeration systems, and other equipment and activities that are not directly involved (i.e., they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a product or intermediates used in the production of the product.

Batch process vent means a vent from a CMPU or vents from multiple CMPUs within a process that are manifolded together into a common header, through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Batch process vents include vents with intermittent flow from continuous operations that are not combined with any stream that originated as a continuous gas stream from the same continuous process. Examples of batch process vents include, but are not limited to, vents on condensers used for product recovery, reactors, filters, centrifuges, and process tanks. The following are not batch process vents for the purposes of this subpart:

(1) Continuous process vents;

(2) Bottoms receivers;

(3) Surge control vessels;

(4) Gaseous streams routed to a fuel gas system(s);

(5) A gas stream routed to other processes for reaction or other use in another process (i.e., for chemical value as a product, isolated intermediate, byproduct, or coproduct, or for heat value).

(6) Vents on storage tanks or wastewater systems;

(7) Drums, pails, and totes; and

(8) Emission streams from emission episodes that are undiluted and uncontrolled containing less than 50 ppmv HAP are not part of any batch process vent. The HAP concentration may be determined using any of the following: process knowledge, an engineering assessment, or test data.

Byproduct means a chemical (liquid, gas, or solid) that is produced coincidentally during the production of the product.

Chemical manufacturing process means all equipment which collectively functions to produce a product or isolated intermediate. A process includes, but is not limited to any, all, or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. A process is also defined by the following:

- (1) Routine cleaning operations conducted as part of batch operations are considered part of the process;
- (2) Each nondedicated solvent recovery operation is considered a single process;
- (3) Each nondedicated formulation operation is considered a single process;
- (4) Quality assurance/quality control laboratories are not considered part of any process;
- (5) Ancillary activities are not considered a process or part of any process; and
- (6) The end of a process that produces a solid material is either up to and including the dryer or extruder, or for a polymer production process without a dryer or extruder, it is up to and including the die plate or solid-state reactor, except in two cases. If the dryer, extruder, die plate, or solid-state reactor is followed by an operation that is designed and operated to remove HAP solvent or residual monomer from the solid, then the solvent removal operation is the last step in the process. If the dried solid is diluted or mixed with a HAP-based solvent, then the solvent removal operation is the last step in the process.

Continuous process vent means a "process vent" as defined in § 63.101 in subpart F of this part, except:

- (1) The reference in § 63.107(e) to a chemical manufacturing process unit that meets the criteria of § 63.100(b) means a CMPU that meets the criteria of § 63.11494(a) and (b);
- (2) The reference in § 63.107(h)(2) to subpart H means § 63.11495(a) for the purposes of this subpart;
- (3) The reference in § 63.107(h)(4) to § 63.113 means Tables 2 and 3 to this subpart;
- (4) The reference in § 63.107(h)(7) to § 63.119 means Table 5 to this subpart, and the reference to § 63.126 does not apply for the purposes of this subpart;
- (5) The second sentence in the definition of "process vent" in § 63.101 does not apply for the purposes of this subpart;
- (6) The references to an "air oxidation reactor, distillation unit, or reactor" in § 63.107 means any continuous operation for the purposes of this subpart;
- (7) Section § 63.107(h)(8) does not apply for the purposes of this subpart; and
- (8) A separate determination is required for the emissions from each CMPU, even if emission streams from two or more CMPU are combined prior to discharge to the atmosphere or to a control device.

Co-Product means a chemical that is produced during the production of another chemical, both for their intended production.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source fails to meet any requirement or obligation established by this subpart, including, but not limited to any emissions limitation or management practice; or 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.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in or associated with a CMPU.

Feedstock means any raw material, reactant, solvent, additive, or other material introduced to a CMPU.

In metal HAP service means that a process vessel or piece of equipment either contains or contacts a feedstock, byproduct, or product that contains metal HAP.

In organic HAP service means that a process vessel or piece of equipment either contains or contacts a feedstock, byproduct, or product that contains an organic HAP.

Metal HAP means the compounds containing metals listed as HAP in section 112(b) of the CAA.

Metal HAP process vent means the point of discharge to the atmosphere (or inlet to a control device, if any) of a metal HAP-containing gas stream from any CMPU at an affected source.

Organic HAP means any organic HAP listed in section 112(b) of the CAA. For the purposes of requirements in this subpart VVVVVV, hydrazine is to be considered an organic HAP.

Process vessel means each vessel, except hand-held containers, used in the processing of raw materials to chemical products. Examples include, but are not limited to reactors, distillation units, centrifuges, mixing vessels, and process tanks.

Product means a compound or chemical which is manufactured as the intended product of the CMPU. Products include co-products. By-products, isolated intermediates, impurities, wastes, and trace contaminants are not considered products.

Reactive material means energetics, organic peroxides, and unstable chemicals such as chemicals that react violently with water and chemicals that vigorously polymerize, decompose, or become self-reactive under conditions of pressure or temperature.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering organic chemicals or metal-containing chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units.

Resinous material means a viscous, high-boiling point material resembling pitch or tar, such as plastic resin, that sticks to or hardens in the fill pipe under normal transfer conditions.

Shutdown, for a unit operation with a continuous process vent, means the cessation of the unit operation for any purpose. Shutdown begins with the initiation of steps as described in a written standard operating procedures (SOP) or shutdown plan to cease normal/stable operation (e.g., reducing or immediately stopping feed).

Startup, for a unit operation with a continuous process vent, means the setting in operation of the unit for any purpose. The period of startup ends upon completion of the transient, non-equilibrium step at the time operating conditions reach steady state for operating parameters such as temperature, pressure, composition, feed rate, and production rate. Periods of startup described by SOP manuals at the affected source may be used to determine the period of startup.

Storage tank means a tank or other vessel that is used to store liquids that contain organic HAP and that are part of a CMPU subject to this subpart VVVVVV. The following are not considered storage tanks for the purposes of this subpart:

- (1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;
- (2) Pressure vessels designed to operate in excess of 204.9 kilopascals (kPa) and without emissions to the atmosphere;
- (3) Process tanks;
- (4) Tanks storing organic liquids containing HAP only as impurities;
- (5) Surge control vessels;
- (6) Bottoms receivers; and
- (7) Wastewater storage tanks.

Transfer operations means all product loading into tank trucks and rail cars of liquid containing organic HAP from a transfer rack. Transfer operations do not include the loading to other types of containers such as cans, drums, and totes.

Transfer rack means the system used to load organic liquids into tank trucks and railcars at a single geographic site. It includes all loading arms, pumps, meters, shutoff valves, relief valves, and other piping and equipment necessary for the transfer operation. Transfer equipment that are physically separate (i.e., do not share common piping, valves, and other equipment) are considered to be separate transfer racks.

Wastewater means water that is discarded from a CMPU or control device and that contains at least 5 ppmw of any HAP listed in Table 9 to 40 CFR part 63, subpart G and has an annual average flow rate of 0.02 liters per minute. Wastewater means both process wastewater and maintenance wastewater that is discarded from a CMPU or control device. The following are not considered wastewater for the purposes of this subpart:

- (1) Stormwater from segregated sewers;
- (2) Water from fire-fighting and deluge systems, including testing of such systems;
- (3) Spills;
- (4) Water from safety showers;
- (5) Samples of a size not greater than reasonably necessary for the method of analysis that is used;
- (6) Equipment leaks;
- (7) Wastewater drips from procedures such as disconnecting hoses after cleaning lines; and
- (8) Noncontact cooling water.

Wastewater stream means a single point discharge of wastewater from a CMPU or control device.

Wastewater treatment means chemical, biological, and mechanical procedures applied to wastewater to remove or reduce HAP or other chemical constituents.

§ 63.11503 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or tribal agency pursuant to 40 CFR part 63, subpart E, then that Agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency within your State.

(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 approval authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(1) Approval of an alternative non-opacity emissions standard under § 63.6(g).

(2) Approval of a major change to a test method. A “major change to test method” is defined in § 63.90.

(3) Approval of a major change to monitoring under § 63.8(f). A “major change to monitoring” is defined in § 63.90.

(4) Approval of a major change to recordkeeping/reporting under § 63.10(f). A “major change to recordkeeping/reporting” is defined in § 63.90.

Table 1 to Subpart VVVVVV of Part 63—Hazardous Air Pollutants Used To Determine Applicability of Chemical Manufacturing Operations

As required in § 63.11494(a), chemical manufacturing operations that process, use, or produce the HAP shown in the following table are subject to subpart VVVVVV.

Type of HAP	Chemical name	CAS No.
1. Organic compounds	a. 1,3-butadiene	106990
	b. 1,3-dichloropropene	542756
	c. Acetaldehyde	75070
	d. Chloroform	67663
	e. Ethylene dichloride	107062
	f. Hexachlorobenzene	118741
	g. Methylene chloride	75092
	h. Quinoline	91225
2. Metal compounds	a. Arsenic compounds	
	b. Cadmium compounds	
	c. Chromium compounds	
	d. Lead compounds	
	e. Manganese compounds	
	f. Nickel compounds	
3. Others	a. Hydrazine	302012

Table 2 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Batch Process Vents

As required in § 63.11496, you must comply with the requirements for batch process vents as shown in the following table.

For * * *	You must * * *	Except * * *
1. Batch process vents in a CMPU at an existing source for which the total organic HAP emissions are equal to or greater than 10,000 lb/yr	a. Reduce collective uncontrolled total organic HAP emissions from the sum of all batch process vents by ≥ 85 percent by weight or to ≤ 20 ppmv by routing emissions from a sufficient number of the batch process vents through a closed vent system to any combination of control devices (except a flare) in accordance with the requirements of § 63.982(c) and the requirements referenced therein; or	i. Compliance may be based on either total organic HAP or total organic carbon (TOC); and ii. As specified in § 63.11496(g).
	b. Route emissions from batch process vents containing at least 85 percent of the uncontrolled total organic HAP through a closed-vent system to a flare (except that a flare may not be used to control halogenated vent streams) in accordance with the requirements of § 63.982(b) and the requirements referenced therein; or	i. Not applicable.
	c. Comply with the alternative standard specified in § 63.2505 and the requirements referenced therein; or	i. As specified in § 63.11496(e) of this subpart.
	d. Comply with combinations of the requirements in Items a., b., and c. of this Table for different groups of batch process vents	i. The information specified above for Items a., b., and c., as applicable.
2. Batch process vents in a CMPU at a new source for which the total organic HAP emissions are equal to or greater than 10,000 lb/yr	a. Comply with any of the emission limits in Items 1.a through 1.d of this Table, except 90 percent reduction applies instead of 85 percent reduction in Item 1.a, and 90 percent of the emissions must be routed to a flare instead of 85 percent in Item 1.b	i. The information specified above for Items 1.a., 1.b., 1.c., and 1.d, as applicable.
3. Halogenated batch process vent stream at a new or existing source that is controlled through combustion	a. Comply with the requirements for halogen scrubbers in § 63.11496(d).	

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Table 3 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Continuous Process Vents

As required in § 63.11496, you must comply with the requirements for continuous process vents as shown in the following table.

For * * *	You must * * *	Except * * *
1. Each continuous process vent with a TRE ≤ 1.0	a. Reduce emissions of total organic HAP by ≥ 95 percent by weight (≥ 85 percent by weight for periods of startup or shutdown) or to ≤ 20 ppmv by routing emissions through a closed vent system to any	i. Compliance may be based on either total organic HAP or TOC;

	combination of control devices (except a flare) in accordance with the requirements of § 63.982(c)(2) and the requirements referenced therein; or	and ii. As specified in § 63.11496(g).
	b. Reduce emissions of total organic by HAP by routing all emissions through a closed-vent system to a flare (except that a flare may not be used to control halogenated vent streams) in accordance with the requirements of § 63.982(b) and the requirements referenced therein; or	i. Not applicable.
	c. Comply with the alternative standard specified in § 63.2505 and the requirements referenced therein	i. As specified in § 63.11496(e).
2. Halogenated vent stream that is controlled through combustion	a. Comply with the requirements for halogen scrubbers in § 63.11496(d).	

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Table 4 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Metal HAP Process Vents

As required in § 63.11496(f), you must comply with the requirements for metal HAP process vents as shown in the following table.

For * * *	You must * * *	Except * * *
Each CMPU with total metal HAP emissions ≥400 lb/yr	Reduce collective uncontrolled emissions of total metal HAP emissions by ≥95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices, according to the requirements of § 63.11496(f)(3), (4), or (5)	Not applicable.

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Table 5 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Storage Tanks

As required in § 63.11497, you must comply with the requirements for storage tanks as shown in the following table.

For each * * *	You must * * *	Except * * *
1. Storage tank with a design capacity ≥40,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the maximum true vapor pressure (MTVP) of total organic HAP at the storage temperature is ≥5.2 kPa and <76.6 kPa	a. Comply with the requirements of subpart WW of this part;	i. All required seals must be installed by the compliance date in § 63.11494.
	b. Reduce total organic HAP emissions by ≥95 percent by weight by operating and maintaining a closed-vent system and control device (other than a flare) in	i. Compliance may be based on either total organic HAP or TOC; ii. Comply with the management practice inspection requirements

	accordance with § 63.982(c)(1); or	in § 63.11495 for the closed-vent system; iii. When the term storage vessel is used in subpart SS of this part, the term storage tank, surge control vessel, or bottoms receiver, as defined in § 63.11502 of this subpart, applies; and iv. The requirements do not apply during periods of planned routine maintenance of the control device, as specified in § 63.11497(b).
	c. Reduce total HAP emissions by operating and maintaining a closed-vent system and a flare in accordance with § 63.982(b); or	i. The requirements do not apply during periods of planned routine maintenance of the flare, as specified in § 63.11497(b); and ii. When the term storage vessel is used in subpart SS of this part, it means storage tank, surge control vessel, or bottoms receiver, as defined in § 63.11502 of this subpart.
	d. Vapor balance in accordance with § 63.2470(e); or	i. Not applicable.
	e. Route emissions to a fuel gas system or process in accordance with the requirements in § 63.982(d) and the requirements referenced therein	i. When the term storage vessel is used in subpart SS of this part, it means storage tank, surge control vessel, or bottoms receiver, as defined in § 63.11502.
2. Storage tank with a design capacity ≥20,000 gallons and <40,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the MTVP of total organic HAP at the storage temperature is ≥27.6 kPa and <76.6 kPa	a. Comply with one of the options in Item 1 of this table	i. The information specified above for Items 1.a., 1.b., 1.c., 1.d, and 1.e, as applicable.
3. Storage tank with a design capacity ≥20,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the MTVP of total organic HAP at the storage temperature is ≥76.6 kPa	a. Comply with option b, c, d, or e in Item 1 of this table	i. The information specified above for Items 1.b., 1.c., 1.d, and 1.e, as applicable.
4. Storage tank described by Item 1, 2, or 3 in this table and emitting a halogenated vent stream that is controlled with a combustion device	a. Reduce emissions of hydrogen halide and halogen HAP by ≥95 percent by weight, or to ≤0.45 kg/hr, or to ≤20 ppmv by using a halogen reduction device after the combustion device according to the requirements in § 63.11496(d); or	
	b. Reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to ≤20 ppmv by using a halogen reduction device before the combustion device according to the requirements in § 63.11496(d).	

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Table 6 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Wastewater Systems

As required in § 63.11498, you must comply with the requirements for wastewater systems as shown in the following table.

For each * * *	You must * * *	And you must * * *
1. Wastewater stream	a. Discharge to onsite or offsite treatment	i. Maintain records identifying each wastewater stream and documenting the type of treatment that it receives. Multiple wastewater streams with similar characteristics and from the same type of activity in a CMPU may be grouped together for recordkeeping purposes.
2. Wastewater stream containing partially soluble HAP at a concentration ≥10,000 ppmw and separate organic and water phases	a. Use a decanter, steam stripper, thin film evaporator, or distillation unit to separate the water phase from the organic phase(s); or	i. For the water phase, comply with the requirements in Item 1 of this table, and ii. For the organic phase(s), recycle to a process, use as fuel, or dispose as hazardous waste either onsite or offsite, and iii. Keep records of the wastewater streams subject to this requirement and the disposition of the organic phase(s).
	b. Hard pipe the entire wastewater stream to onsite treatment as a hazardous waste, or hard pipe the entire wastewater stream to a point of transfer for offsite treatment as a hazardous waste	i. Keep records of the wastewater streams subject to this requirement and the disposition of the wastewater streams.

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Table 7 to Subpart VVVVVV of Part 63—Partially Soluble HAP

As required in § 63.11498(a), you must comply with emission limits for wastewater streams that contain the partially soluble HAP listed in the following table.

Partially soluble HAP name	CAS No.
1. 1,1,1-Trichloroethane (methyl chloroform)	71556
2. 1,1,1,2-Tetrachloroethane	79345
3. 1,1,2-Trichloroethane	79005
4. 1,1-Dichloroethylene (vinylidene chloride)	75354
5. 1,2-Dibromoethane	106934
6. 1,2-Dichloroethane (ethylene dichloride)	107062
7. 1,2-Dichloropropane	78875
8. 1,3-Dichloropropene	542756

9. 2,4,5-Trichlorophenol	95954
10. 1,4-Dichlorobenzene	106467
11. 2-Nitropropane	79469
12. 4-Methyl-2-pentanone (MIBK)	108101
13. Acetaldehyde	75070
14. Acrolein	107028
15. Acrylonitrile	107131
16. Allyl chloride	107051
17. Benzene	71432
18. Benzyl chloride	100447
19. Biphenyl	92524
20. Bromoform (tribromomethane)	75252
21. Bromomethane	74839
22. Butadiene	106990
23. Carbon disulfide	75150
24. Chlorobenzene	108907
25. Chloroethane (ethyl chloride)	75003
26. Chloroform	67663
27. Chloromethane	74873
28. Chloroprene	126998
29. Cumene	98828
30. Dichloroethyl ether	111444
31. Dinitrophenol	51285
32. Epichlorohydrin	106898
33. Ethyl acrylate	140885
34. Ethylbenzene	100414
35. Ethylene oxide	75218
36. Ethylidene dichloride	75343
37. Hexachlorobenzene	118741
38. Hexachlorobutadiene	87683
39. Hexachloroethane	67721
40. Methyl methacrylate	80626
41. Methyl-t-butyl ether	1634044
42. Methylene chloride	75092
43. N-hexane	110543

44. N,N-dimethylaniline	121697
45. Naphthalene	91203
46. Phosgene	75445
47. Propionaldehyde	123386
48. Propylene oxide	75569
49. Styrene	100425
50. Tetrachloroethylene (per- chloroethylene)	127184
51. Tetrachloromethane (carbon tetrachloride)	56235
52. Toluene	108883
53. Trichlorobenzene (1,2,4-)	120821
54. Trichloroethylene	79016
55. Trimethylpentane	540841
56. Vinyl acetate	108054
57. Vinyl chloride	75014
58. Xylene (m)	108383
59. Xylene (o)	95476
60. Xylene (p)	106423

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Table 8 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Heat Exchange Systems

As required in § 63.11499, you must comply with the requirements for heat exchange systems as shown in the following table.

For * * *	You must * * *	Except * * *
1. Each heat exchange system with a cooling water flow rate ≥8,000 gal/min and not meeting one or more of the conditions in § 63.104(a)	a. Comply with the monitoring requirements in § 63.104(c), the leak repair requirements in § 63.104(d) and (e), and the recordkeeping and reporting requirements in § 63.104(f); or	i. The reference to monthly monitoring for the first 6 months in § 63.104(c)(1)(iii) does not apply. Monitoring shall be no less frequent than quarterly; ii. The reference in § 63.104(f)(1) to record retention requirements in § 63.103(c)(1) does not apply. Records must be retained as specified in §§ 63.10(b)(1) and 63.11501(c); and iii. The reference in § 63.104(f)(2) to “the next semi-annual periodic report required by § 63.152(c)” means the next semi-annual compliance report required by § 63.11501(f).
	b. Comply with the heat exchange system requirements in § 63.104(b) and the requirements referenced therein	i. Not applicable.

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Table 9 to Subpart VVVVVV of Part 63—Applicability of General Provisions to Subpart VVVVVV

As required in § 63.11501(a), you must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) as shown in the following table.

Citation	Subject	Applies to Subpart VVVVVV?	Explanation
63.1(a)(1), (a)(2), (a)(3), (a)(4), (a)(6), (a)(10)-(a)(12) (b)(1), (b)(3), (c)(1), (c)(2), (c)(5), (e)	Applicability	Yes	
63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3), (c)(4), (d)	Reserved	No	
63.2	Definitions	Yes	
63.3	Units and Abbreviations	Yes	
63.4	Prohibited Activities and Circumvention	Yes	
63.5	Preconstruction Review and Notification Requirements	Yes	
63.6(a), (b)(1)-(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1)(iii), (g), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes	
63.6(b)(6), (c)(3), (c)(4), (d), (h)(3), (h)(5)(iv)	Reserved	No	
63.6 (e)(1)(i) and (ii), (e)(3), and (f)(1)	SSM Requirements	No	
63.6(h)(1)-(h)(4), (h)(5)(i)-(h)(5)(iii), (h)(6)-(h)(9)		No	Subpart VVVVVV does not include opacity or visible emissions (VE) standards or require a continuous opacity monitoring system (COMS).
63.7(a)(1), (a)(3), (a)(4), (c), (e)(4), and (f)-(h)	Performance Testing Requirements	Yes	
63.7(a)(2), (b), (d), (e)(1)-(3)	Performance Testing Schedule, Notification of Performance Test, Performance Testing Facilities, and Conduct of Performance Tests	Yes/No	Requirements apply if conducting test for metal HAP control; requirements in §§ 63.997(c)(1), (d), (e), and 63.999(a)(1) apply, as referenced in § 63.11496(g), if conducting test for organic HAP or hydrogen halide and halogen HAP control device.
63.8(a)(1), (a)(4), (b), (c)(1)-(c)(3), (f)(1)-(5)	Monitoring Requirements	Yes	References to SSM in § 63.8(c) do not apply.
63.8(a)(2)	Monitoring Requirements	No	
63.8(a)(3)	Reserved	No	

63.8(c)(4)		No	Continuous parameter monitoring system (CPMS) requirements in 40 CFR part 63, subparts SS and FFFF are referenced from § 63.11496.
63.8(c)(5)		No	Subpart VVVVVV does not require COMS.
63.8(c)(6)-(c)(8), (d), (e), (f)(6)		Yes	Requirements apply only if you use a continuous emission monitoring system (CEMS) to demonstrate compliance with the alternative standard in § 63.11496(e). References to SSM in § 63.8(d) do not apply.
63.8(g)(1)-(g)(4)		Yes	Data reduction requirements apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e). COMS requirements do not apply. Requirement in § 63.8(g)(2) does not apply because data reduction for CEMS are specified in 40 CFR part 63, subpart FFFF.
63.8(g)(5)		No	Data reduction requirements for CEMS are specified in 40 CFR part 63, subpart FFFF, as referenced from § 63.11496. CPMS requirements are specified in 40 CFR part 63, subparts SS and FFFF, as referenced from § 63.11496.
63.9(a), (b)(1), (b)(2), (b)(4), (b)(5), (c), (d), (e), (i)	Notification Requirements	Yes	
63.9(b)(3), (h)(4)	Reserved	No	
63.9(f)		No	Subpart VVVVVV does not contain opacity or VE limits.
63.9(g)		Yes	Additional notification requirement applies only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.9(h)(1)-(h)(3), (h)(5)-(h)(6)		Yes	Except subpart VVVVVV does not contain opacity or VE limits.
63.9(j)	Change in Information Already Provided	No	Notification of process changes that affect a compliance determination are required in § 63.11501(d)(4).
63.10(a)	Recordkeeping Requirements	Yes	
63.10(b)(1)		Yes	
63.10(b)(2)(i)-(b)(2)(v)		Yes	Any references to SSM do not apply.
63.10(b)(2)(vi), (x), (xi), (xiii)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.10(b)(2)(vii)-(b)(2)(ix), (b)(2)(xii), (b)(2)(xiv)		Yes	
63.10(b)(3)		Yes	
63.10(c)(1), (c)(5)-		Yes	Apply only if you use CEMS to demonstrate

(c)(6), (c)(13)-(c)(14)			compliance with alternative standard in § 63.11496(e).
63.10(c)(7)-(c)(8), (c)(10)-(c)(12), (c)(15)		Yes	Any reference to SSM does not apply.
63.10(c)(2)-(c)(4), (c)(9)	Reserved	No	
63.10(d)(1), (d)(2), (d)(4), (e)(1), (e)(2), (f)	Reporting Requirements	Yes	
63.10(d)(3)		No	Subpart VVVVVV does not include opacity or VE limits.
63.10(d)(5)		No	
63.10(e)(1)-(e)(2)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.10(e)(3)		Yes	
63.10(e)(4)		No	Subpart VVVVVV does not include opacity or VE limits.
63.11	Control Device Requirements	Yes	
63.12	State Authorities and Delegations	Yes	
63.13	Addresses	Yes	
63.14	Incorporations by Reference	Yes	
63.15	Availability of Information and Confidentiality	Yes	
63.16	Performance Track Provisions	Yes	

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Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document (TSD) for a renewal Part 70 Operating Permit

Source Description and Location

Source Name:	Praxair, Inc.
Source Location:	2551 Dickey Road, East Chicago, IN
County:	Lake
SIC Code:	2813
2 nd Renewal Operation Permit No.:	T 089-31620-00435
Permit Reviewer:	James Mackenzie

Public Notice Information

On December 10, 2012, the Office of Air Quality (OAQ) had a notice published in Post Tribune, in Merrillville, Indiana, and in The Times, in Munster, Indiana, stating that the Praxair, Inc. had applied for a renewal of their Part 70 Operating Permit issued on January 14, 2008. The notice also stated that OAQ proposed to issue a permit 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 Received

No comments have been received concerning the permit addressed in the public notice.

The IDEM does not amend the Technical Support Document (TSD). The TSD is maintained to document the original review. This addendum to the TSD is used to document responses to comments and changes made from the time the permit was drafted until a final decision is made.

The summary of the comments and IDEM, OAQ responses, including changes to the permit (language deleted is shown in ~~strikeout~~ and language added is shown in **bold**) are as follows:

Changes

Though no received comments have been received, the OAQ IDEM has decided to make the following addendum to the permit Technical Support Document regarding the determination of this emission source.

Source Determination

The industrial gas manufacturing source described in this document is the primary plant of two separate plants located at one site address. The secondary plant is comprised of the New Hydrogen Unit; however, it is considered part of a separate source, BP Products North America Inc., despite being owned and maintained by Praxair Inc.

The following excerpt from the Technical Support Document for SSM 089-32033-00453 for BP Products North America Inc. defines its relationship to each of the two Praxair Inc. plants. In it, the plants are defined as:

Plant A: Praxair Inc., an industrial gas manufacturing source - (independent);

and

Plant B: Praxair Inc., New Hydrogen Unit - (part of BP Products NA Inc. ID # 089-00453).

" The BP Whiting Refinery (BP) needs high pressure steam and high pressure hydrogen for its Whiting Refinery Modernization Project (WRMP). Praxair owns and operates a plant near the BP facility that produces low pressure hydrogen, carbon dioxide and low pressure steam (Plant A). Praxair's Plant A sells less than 50% of its current production to BP. In order to supply the high pressure hydrogen and high pressure steam needed for BP's WRMP , Praxair constructed a new plant (Plant B) near Plant A. IDEM, OAQ has examined whether Praxair's new Plant B will be part of the same major source as Praxair's Plant A, and whether one or both of the Praxair plants are part of the same major source as BP. The term "major source" is defined at 326 IAC 2-7-1(22). In order for two or more plants to be considered one major source, they must meet all three of the following criteria:

- (1) the plants must be under common ownership or common control;
- (2) the plants have the same two-digit SIC Code or one must serve as a support facility for another; and,
- (3) the plants must be located on contiguous or adjacent properties.

The Two Praxair Plants

The first analysis will be of the relationship between the two Praxair plants. The Praxair plants are owned by Praxair. In 1996, IDEM adopted nonrule policy document (NPD) Air-005 to provide guidance for major source determinations. This nonrule policy states that if two plants are owned by the same entity, then common control exists. Since the two Praxair plants have the same owner, there is also common control and the first criterion of the definition of major source is met.

The SIC Code Manual, 1987, sets out how to determine the proper SIC Code for each type of business. The SIC Code is based on the source's primary activity or product. Although OSHA started using NAICS, the North American Industry Classification System, a 6-digit industry grouping system in 2003, Indiana's source definition rules still refer to the SIC Code Manual, 1987. OSHA keeps the Standard Industrial Classification Code Manual, 1987, available at http://www.osha.gov/pls/imis/sic_manual.html on the internet. The two Praxair plant have the same two-digit SIC code 28 for the major group Chemicals and Allied Products. The two plants therefore meet the second criterion of the definition.

The last criterion of the definition is whether the two plants are located on contiguous or adjacent properties. Praxair's Plant B is located approximately 75 yards from Praxair's Plant A. The plants are separated by property owned by Mittal Steel. A Mittal Steel bridge runs between the two Praxair properties. The two plants are not located on contiguous properties.

The term "adjacent" is not defined in Indiana's rules. NPD Air-005 adds the following guidance:

- properties that actually abut at any point would satisfy the requirement of contiguous or adjacent property.
- properties that are separated by a public road or public property would satisfy this requirement, absent special circumstances.
- other scenarios would be examined on an individual basis with the focus on the distance between the activities and the relationship between the activities.

All IDEM evaluations of adjacency are done on a case-by-case basis looking at the specific factors for the sources involved. The evaluation should look at whether the distance between the plants is sufficiently small that it enables them to operate as a single source. In addition to determining the distance between the sources, IDEM asks:

- (1) Are materials routinely transferred between the plants?
- (2) Do managers or other workers frequently shuttle back and forth to be involved actively in the plants?
- (3) Is the production process itself split in any way between the plants?

These questions focus on whether the two separate sources are so interrelated that they are functioning as one plant, and whether the distance between them is small enough that it enables them to operate as one plant.

Praxair states that the site for Plant B was chosen because it was one of a very few possible sites in the area. Plant B must be located relatively close to BP to provide a cost effective way of supplying high pressure steam to BP's WRMP . Praxair has stated that it will not operate Plant B if the WRMP were to cease operation. Praxair has no customers for the additional 200 million cubic feet per day of high pressure hydrogen production or for the high pressure steam.

Materials will not be routinely transferred between the two Praxair sites. The only thing that will be transferred is low pressure steam produced at Plant A that is used as building heat for Plant B. Some of Plant B's piping will travel on Plant A's property but will not be directly connected to any process in Plant A.

The plant manager is the same for both the existing and new plant. Praxair uses the same plant manager for other Praxair sources that are in the same general area, even when the sources are miles apart. Praxair will employ additional regional employees with offices at Plant B that will have responsibilities at Plant A, Plant B and two other regional Praxair plants in Michigan. Praxair hired additional employees to operate Plant B. All Praxair employees located at Plant A and Plant B are cross-trained to perform tasks at either plant and all personnel are shared between the two plants. All employees at Plant A and Plant B may also be temporarily assigned to other Praxair plants in the region and elsewhere. Praxair uses this type of employee sharing companywide and would have used the same sharing arrangement even if Plant B had been located even further from Plant A.

Plant B will have its own control room, supply room, parts room and will function as a stand-alone plant. The production process will not be split in any way between the two Praxair plants. The raw materials Plant B will use to produce hydrogen and high pressure steam, natural gas, refinery gas and water, will come directly from BP.

The two Praxair plants do not operate as a single source. Though the plants will share one manager and production employees, they have separate and unrelated production processes. The plants could have the same relationship even if they were located many miles apart. Therefore, the two plants are not located on adjacent properties. Since they do not meet the third criteria of the major source definition, IDEM, OAQ finds that the two Praxair plants are not part of the same major source.

The Praxair Plants and the BP Whiting Refinery

IDEM, OAQ has also examined whether Praxair's Plant A and/or its new Plant B will be part of the same major source as BP. The same major source definition applies.

The Praxair plants have a different owner than BP and there is no other common owner. Where there is no common ownership, IDEM's NPD Air-005 sets out two tests to determine if common control exists. These are the two-pronged test and the but/for test. If either test is satisfied, then common control exists.

The two-pronged test examines if one of the sources is an auxiliary activity that directly serves the purpose of a primary activity and if the owner or operator of the primary activity has a major role in the day-to-day operations of the auxiliary activity. An auxiliary activity directly serves the purpose of a primary activity by supplying a necessary raw material to the primary activity or performing an integral part of the production process for the primary activity.

Day-to-day control of the auxiliary activity by the primary activity may be evidenced by several factors, including:

- is a majority of the output of the auxiliary activity provided to the primary activity?
- can the auxiliary activity contract to provide its products/services to a third-party without the consent of the primary activity?
- can the primary activity assume control of the auxiliary activity under certain circumstances?
- is the auxiliary activity required to provide periodic reports to the primary activity?

If one or a combination of these questions is answered affirmatively, common control may exist.

Plant A supplies hydrogen gas to BP. Plant A also produces hydrogen and carbon dioxide gases, which are sold to customers other than BP. More than 50% of Plant A's sales are to its other customers. BP does not have a major role in the day-to-day operations of Plant A. Plant A and BP do not meet the first common control test

Plant B will dedicate 92.5 percent of its total output of high pressure hydrogen and high pressure steam to BP. Plant B does not yet have any other customers. In addition, BP will supply all of the natural gas, refinery gas and water used by Plant B. BP will have a major role in the day-to-day operations of Plant B. Plant B and BP meet the first common control test.

The second common control test, the but/for test, asks if the auxiliary activity would exist absent the needs of the primary activity. If all or a majority of the output of the auxiliary activity is consumed by the primary activity the but/for test is satisfied.

If BP were to close, Plant A would be able to continue operating, since it will still have most of its customers and it does not get any material from BP. The but/for test is not satisfied. Therefore, there is no common control between Plant A and BP.

Plant B would lose at least 92.5% of its sales and lose its supply of essential raw materials if BP were to close. Plant B would not be able to operate until it created new fuel and water supply lines. Plant B would also have to find new customers. Plant B and BP satisfy the but/for test. Therefore, there is common control between Plant B and BP.

The second part of the definition of major source is whether the plants have the same two-digit SIC Code or if one serves as a support facility for the other. Plant A and Plant B have the two-digit SIC Code 28 for the major group Chemicals and Allied Products. BP has the two-digit SIC Code 29 for the major group Petroleum Refining and Related Industries.

A plant is considered a support facility if at least 50% of its total output is dedicated to the other plant. Plant A does not send 50% or more of its output to BP; therefore it is not a support facility. Plant B has dedicated at least 92.5% of its output to BP, so it is a support facility to BP. The second element of the definition is met for BP and Plant B, but not for BP and Plant A.

The last element of the definition is whether Plant A and/or Plant B are on contiguous or adjacent properties with BP. Plant A is on property that shares a common 40 foot long property line with BP's property. Therefore, Plant A and BP are on contiguous properties, meeting the third element of the definition.

Plant B is located on property that is not contiguous with BP's property. The two properties are about 1,600 feet apart. IDEM, OAQ must determine if Plant B and BP will be "adjacent". As stated above, all evaluations of adjacency are done on a case-by-case basis looking at the specific factors for the source involved. In addition to determining the distance between the sources, IDEM asks:

- (1) Are materials routinely transferred between the plants?
- (2) Do managers or other workers frequently shuttle back and forth to be involved actively in the plants?
- (3) Is the production process itself split in any way between the plants?

These questions focus on whether the two separate sources are so interrelated that they are functioning as one plant, and that the distance between them is small enough that it enables them to operate as one

Refinery gas, natural gas and water will flow through lines from BP to Plant B. Plant B will use that fuel and raw material to create high pressure steam and hydrogen which will be sent to BP by other dedicated pipelines. It is important that Plant B is located near to BP for effective transmission of high pressure steam.

No managers or production staff will travel back and forth between Plant B and BP to be actively involved in both plants. The production process will be split between Plant B and BP, as the hydrogen and high pressure steam provided by Plant B will result in the production of additional refinery gas which can be sent to Plant B from BP.

IDEM, OAQ finds that the distance between the two plants is sufficiently small and their production processes are so intertwined that it allows them to function as one source. Therefore, Plant B and BP are located on adjacent properties.

Plant A and BP do not meet all three elements of the major source definition. Therefore, Plant A and BP are not part of the same major source. Plant B and BP meet all three elements of the definition. IDEM, OAQ therefore finds that Plant B and BP are part of the same major source."

IDEM Contact

Questions regarding this proposed permit can be directed to James Mackenzie at the Indiana Department Environmental Management, Office of Air Quality, 100 North Senate Avenue, Indianapolis, IN 46204-2251 or by telephone at (317) 233-2641 or toll free at 1-800-451-6027 extension 3-2641.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Praxair, Inc.
Source Location:	2551 Dickey Road, East Chicago, IN
County:	Lake
SIC Code:	2813
2 nd Renewal Operation Permit No.:	T 089-31620-00435
Permit Reviewer:	James Mackenzie

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Praxair, Inc. relating to the operation of an industrial gas manufacturing source. On March 15, 2012, Praxair, Inc. submitted an application to the OAQ requesting to renew its operating permit. Praxair, Inc. was issued its first Part 70 Operating Permit Renewal T089-23333-00345 on January 14, 2008.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

- (a) One (1) steam methane Reformer No. 1, identified as A3 and installed in 1991, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 45 million British thermal units (MMBtu) per hour, exhausting at one (1) stack identified as SV003. During Reformer No. 1 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 006.

Reformer No. 1 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (b) One (1) steam methane Reformer No. 2, identified as A8 and installed in 1998, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 37.1 MMBtu per hour, exhausting at one (1) stack identified as S/V 008. During Reformer No. 2 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 010.

Reformer No. 2 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (c) One (1) steam methane Reformer No. 3, identified as A11 and installed in 1999, equipped with a low NOx burner using a mixture of process tail gas and natural gas as fuel and rated at 83.8 MMBtu per hour, exhausting at one (1) stack identified as S/V 011. During Reformer No. 3 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 012;

Reformer No. 3 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (d) One (1) steam methane Reformer No. 4, identified as A17, constructed in 2006, equipped with a low NOx burner, using a mixture of process tail gas and natural gas as fuel and rated at 213.9 MMBtu per hour, exhausting at one (1) stack identified as S/V 017. During Reformer No. 4 startup, shutdown and maintenance activities, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 016.

Reformer No. 4 is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources in 40 CFR 63, Subpart VVVVVV due to the nickel catalyst present in the reformer. The rule is applicable during catalyst loading operations.

- (e) One (1) carbon dioxide (CO₂) purification system, identified as A9 and installed in 1998, recovering and purifying CO₂ generated by reformers A3, A8, A11 and A17, with a process design rate of 172,000 standard cubic feet per hour (SCFH) of feed gas. The by-product stream from the system continuously exhausts through one (1) stack identified as S/V 014, with a maximum design flow rate of 5,657 SCFH and containing no more than 1.58 percent (%) by volume of carbon monoxide (CO). When the carbon dioxide purification system is not operating or at reduced capacity, same or all of the feed gas generated from reformers A3, A8, A11 and A17 will exhaust through one (1) stack identified as S/V 009, at maximum design flow rate of 172,000 SCFH and containing no more than 0.052% by volume of CO.
- (f) One (1) natural gas fired Boiler No. 3, identified as A7 and installed in 1998, rated at 38.8 MMBtu per hour, equipped with a low-NOx burner, and exhausting at one (1) stack identified as S/V 007.

Boiler No. 3 is subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units in 40 CFR 60, Subpart Dc.

Insignificant Activities

The source also consists of the following specifically regulated insignificant activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including:
- (1) One (1) natural gas fired Boiler 1, identified as A1 and installed in 1978, rated at 5.6 MMBtu per hour, and exhausting at one (1) stack identified as SV001. [326 IAC 6-2-2]
 - (2) One (1) natural gas fired Boiler 2, identified as A2 and installed in 1978, rated at 5.6 MMBtu per hour, and exhausting at one (1) stack identified as SV002. [326 IAC 6-2-2]
- (b) The following volatile organic compound (VOC) and hazardous air pollutant (HAP) storage containers:

- (1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including three (3) diesel fuel oil storage tanks, identified as T001, T002, and T004 with storage capacities of 250 gallons, 55 gallons, and 200 gallons, respectively. [326 IAC 8-9]
- (c) Diesel fuel oil storage Tank T005 with storage capacity of 2,000 gallons and annual throughput less than 12,000 gallons. [326 IAC 8-9]
- (d) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]
- (e) Emergency generators as follows: diesel generators not exceeding 1600 horsepower, including:
 - (1) One (1) 100 kilowatt emergency generator, identified as A13 and installed in 1999, driven by a 154 horsepower diesel engine, combusting No. 2 diesel fuel oil, exhausting at one (1) stack identified as S/V 013. [40 CFR 63, Subpart ZZZZ]
 - (2) One (1) 350 kilowatt emergency generator, identified as A15 and installed in 1999, driven by a 519 horsepower diesel engine, combusting No. 2 diesel fuel oil, exhausting at one (1) stack identified as S/V 015. [40 CFR 63, Subpart ZZZZ]
 - (3) One (1) diesel fired emergency generator, identified as A4 and installed in 1978, rated at 0.51 MMBtu per hour, exhausting at one (1) stack identified as SV004. [40 CFR 63, Subpart ZZZZ]
- (f) Stationary Fire pump engine:
 - (1) One (1) diesel fired emergency firewater pump, identified as A5 and installed in 1978, rated at 1.2 MMBtu per hour, exhausting at one (1) stack identified as SV005. [40 CFR 63, Subpart ZZZZ]
- (g) Paved roads and parking lots with public access. [326 IAC 6-4]

The source contains the following additional insignificant activities:

- (h) Other categories with emissions below insignificant thresholds:
 - (1) De-aerator Vents for Hydrogen Plants 1, 2, 3 and 4, identified as A18 through A21.
- (i) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (i) Cleaners and solvents characterized as follows:
 - (1) having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20°C (68°F);the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (k) Closed loop heating and cooling systems.

- (l) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.
- (m) Other categories with emissions below insignificant thresholds, including fugitive emissions from steam reformer system valves and flanges.
- (n) A petroleum fuel other than gasoline dispensing facility, having a storage tank capacity of less than or equal to 10,500 gallons, and dispensing 3,500 gallons per day or less.
- (o) Noncontact cooling tower systems with either of the following:
Forced and induced draft cooling tower system not regulated under a NESHAP.
 - (1) One (1) Norwalk Cooling Tower, installed in 1970, 50 gpm recirculation, 0.2% drift factor.
 - (2) One (1) Main Cooling Tower, installed in 1970, 5,000 gpm recirculation, 0.02% drift factor.
 - (3) One (1) CO2 Unit Cooling Tower, installed in 2004, 1,700 gpm recirculation, 0.005% drift factor.
- (p) Heat exchanger cleaning and repair.
- (q) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (r) Filter or coalescer media changeout.
- (s) Miscellaneous industrial activities with emissions increase below the insignificant levels as follows:
 - (1) For lead or lead compounds measured as elemental lead, the exemption level is six-tenths (0.6) ton per year or three and twenty-nine hundredths (3.29) pounds per day.
 - (2) For carbon monoxide (CO), the exemption limit is twenty-five (25) pounds per day.
 - (3) For sulfur dioxide, the exemption level is five (5) pounds per hour or twenty-five (25) pounds per day.
 - (4) For VOC, the exemption limit is three (3) pounds per hour or fifteen (15) pounds per day.
 - (5) For nitrogen oxides (NO_x), the exemption limit is five (5) pounds per hour or twenty-five (25) pounds per day.
 - (6) For PM₁₀ or direct PM_{2.5}, the exemption level is either five (5) pounds per hour or twenty-five (25) pounds per day.

Existing Approvals

Since the issuance of the Part 70 Operating Permit T089-23333-00345 on July 14, 2008, the source has constructed or has been operating under the following additional approvals:

- (a) Administrative Amendment No. 089-26392-00345, issued on April 14, 2008; and
- (b) Significant Permit Modification No. 089-28926-00345, issued on June 7, 2010.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Lake County.

The following attainment status designations are applicable to Lake County:

Pollutant	Designation
SO ₂	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148 th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O ₃	On June 11, 2012, the U.S. EPA designated Lake County nonattainment, for the 8-hour ozone standard.
PM ₁₀	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ The U. S. EPA has acknowledged in both the proposed and final rulemaking for this redesignation that the anti-backsliding provisions for the 1-hour ozone standard no longer apply as a result of the redesignation under the 8-hour ozone standard. Therefore, permits in Lake County are no longer subject to review pursuant to Emission Offset, 326 IAC 2-3. Unclassifiable or attainment effective February 6, 2012, for PM2.5.	

- (a) **Ozone Standards**
 U.S. EPA, in the Federal Register Notice 77 FR 112 dated June 11, 2012, has designated Lake County as nonattainment for ozone. On August 1, 2012, the air pollution control board issued an emergency rule adopting the U.S. EPA's designation. This rule became effective August 9, 2012. IDEM does not agree with U.S. EPA's designation of nonattainment. IDEM filed a suit against US EPA in the US Court of Appeals for the DC Circuit on July 19, 2012. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's designation. 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. Therefore, VOC and NO_x emissions were evaluated pursuant to the requirements of Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.

- (b) **PM_{2.5}**
 Lake 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} and SO₂ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**
 Lake County has been classified as attainment or unclassifiable in Indiana for SO₂, CO, PM₁₀, NO₂ and Pb. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	4.1
PM ₁₀	14.9
PM _{2.5}	14.9
SO ₂	1.6
VOC	28.6
CO	507.2
NO _x	193.5
GHGs as CO ₂ e	365,890
Single HAP	3.9 (hexane)
Total HAP	8.9

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potentials to emit (as defined in 326 IAC 2-7-1(29)) of CO and NO_x are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is equal to or greater than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, because the source met the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
	PM	PM ₁₀ *	PM _{2.5} **	SO ₂	NO _x	VOC	CO	GHGs	Total HAPs	Worst Single HAP
Boiler #3	0.1	1.3	1.3	0.1	4.2	0.9	191.1	20,517	0.1	0.3 (hex.)
Start-Up Vents: 006, 010, 012, 016	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Reformers: #1, #2, #3	1.4	5.5	5.5	0.4	92.9	5.1	10.2	10,015	3.4	1.8 (hex.)
Reformer #4	1.8	7.2	7.2	0.6	84.3	18.5	9.8	329,172	1.8	1.7 (hex.)
CO ₂ Plant	0.0	0.0	0.0	0.0	0.0	0.0	28.2	0.0	0.0	0.0
Boilers: #1 & #2	0.1	0.4	0.4	0.03	4.9	0.3	4.1	5,923	0.1	0.1 (hex.)
De-Aerator Vents	0.0	0.0	0.0	0.0	0.0	3.3	1.4	0.0	3.3	3.3 (meth.)
Emergency Engines	0.5	0.5	0.5	0.5	7.1	0.6	1.5	264	0.01	0.004 (propylene)
Total PTE of Entire Source	4.1	14.9	14.9	1.6	193.5	28.6	246.4	365,890	8.9	3.9 (hex.)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000 CO ₂ e	25	10
PSD Major Source Thresholds	250	250	250	250	-	-	250	100,000 CO ₂ e	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	-	-	-	-	100	100	-	NA	NA	NA
*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".										
**PM _{2.5} listed is direct PM _{2.5} .										

- (a) This existing source is not a major stationary source for PSD (326 IAC 2-2) because the emissions of each regulated pollutant, excluding GHGs, are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (b) This existing stationary source is major for Emission Offset for Ozone (O₃) because the emissions of the precursor NO_x are greater than one hundred (>100) tons per year.
- (c) This existing stationary source has emissions of GHGs are greater than one hundred thousand (>100,000) tons of CO₂ equivalent emissions (CO₂e) per year; however, the source has not undertaken a physical change or change in the method of operation on or after July 1, 2011, that resulted in an emissions increase of seventy-five thousand (75,000) tons per year of CO₂e or more.

Federal Rule Applicability

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each existing pollutant-specific emission unit that meets the following criteria:
- (1) has a potential to emit before controls equal to or greater than the 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.

Start-Up process vents #006 and # 016 at reformers No. 1 and No. 4, respectively, do have potentials to emit CO greater than the major source threshold level; however, no control device is employed to comply with a standard or limitation.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the existing units as part of this Part 70 permit renewal.

- (b) NSPS: 40 CFR 60, Subpart Dc
Boiler No. 3 is still subject to the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60, Subpart Dc), which is incorporated by reference as 326 IAC 12. Boiler No. 3 is subject because it was constructed after June 9, 1989, and has a maximum design heat input capacity greater than 10 MMBtu per hour and less than 100 MMBtu per hour.

Boiler No. 3 is subject to the following portions of Subpart Dc.

- (1) 40 CFR 60.40c (a), (e)
- (2) 40 CFR 60.41c
- (3) 40 CFR 60.48c (a), (g)

- (c) NSPS: 40 CFR, Subpart IIII
The diesel-fired emergency generators A4, A13 and A15, and emergency fire pump A5 are not subject to Subpart IIII because they were constructed prior to July 11, 2005.

- (d) NESHAP: 40 CFR 63, Subpart ZZZZ
The diesel-fired emergency generators A4, A13 and A15, and emergency fire pump A5 are subject to subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart IIII), which is incorporated by reference as 326 IAC 20-82. These facilities are subject because they are reciprocating internal combustion engines (RICE) at a minor source of HAPS.

These emission units are subject to the following portions of Subpart ZZZZ:

- (1) 40 CFR 63.6603
- (2) 40 CFR 63.6605
- (3) 40 CFR 63.6625(e), (f), (h) and (i)
- (4) 40 CFR 63.6640
- (5) 40 CFR 63.6655(a), (b), (d), (e) and (f)
- (6) Table 2d and footnote 2

- (e) NESHAP: 40 CFR 63, Subpart VVVVVV
The Steam Methane Reformers Nos. 1, 2, 3 and 4 are subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources (40 CFR Part 63, Subpart VVVVVV), which is incorporated by reference in 326 IAC 20-1. These facilities are subject because they generate or use HAP's at a chemical manufacturing process unit that is a minor source of HAPS. Nickel catalyst is used in the reformer. Consequently, the rule is applicable during catalyst loading operations.

These emission units are subject to the following VVVVVV:

- (1) 40 CFR 63.11494
- (2) 40 CFR 63.11495(a)(1), (3) and (5)
- (3) 40 CFR 63.11496(f)(2)
- (4) 40 CFR 63.11500
- (5) 40 CFR 63.11501(a), (b), (c) and (d)
- (6) 40 CFR 63.11502
- (7) 40 CFR 63.11503
- (8) Table 1
- (9) Table 9

State Rule Applicability - Entire Source

326 IAC 1-5-2 (Emergency Reduction Plans)

The source is subject to 326 IAC 1-5-2.

326 IAC 1-6-3 (Preventive Maintenance Plan)

The source is subject to 326 IAC 1-6-3.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

The potential to emit of all regulated pollutants from the existing emission units, after application of all federally enforceable emission limits, is less than 250 tons per year and this source is not one of the 28 listed source categories under this rule. Therefore, this source is an existing minor source for PSD.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is located in Lake County and its emissions of VOC and NOx are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(1), annual reporting is required. An emission statement shall be submitted by July 1, 2013, and every year thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

This source is subject to the opacity limitations specified in 326 IAC 5-1-2(?)

326 IAC 6.8 PM Limitations for Lake County

The potential to emit particulate is less than 100 tons per year, the actual emissions are less than 10 tons per year, and the source is not specifically listed in 326 IAC 6.8-4, 326 IAC 6.8-5 or 326 IAC 6.8-8 through 326 IAC 6.8-11; therefore, the requirements of 326 IAC 6.8 do not apply.

326 IAC 8-6 (Organic Solvent Emission Limitations)

The source is located in Lake County and the potential to emit VOC from the entire source is less than one hundred (100) tons per year. Therefore, pursuant to 326 IAC 8-6-1 (1), the requirements of this rule do not apply.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties)

The requirements of this rule apply to stationary sources located in Lake, Porter, Clark and Floyd Counties that emit or have the potential to emit VOCs at levels equal to or greater than 25 tons per year in Lake and Porter Counties; 100 tons per year in Clark and Floyd Counties; and to any coating facility that emits or has the potential to emit 10 tons per year or greater in Lake, Porter, Clark or Floyd County. The source is located in Lake County with PTE of VOC greater than 25 tons per year. However, this rule is not applicable to this source since this source is comprised of fuel combustion facilities emitting VOCs. The fuel combustion facilities are exempt pursuant to 326 IAC 8-7-2(a)(2).

State Rule Applicability – Individual Facilities

326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)

Natural gas fired Boilers 1, 2, and 3, respectively identified as A1, A2, and A7, shall comply with the following particulate matter (PM) emission limitations:

- (a) Pursuant to 326 IAC 6-2-1, indirect heating facilities located in a specified county and existing and operating prior to September 21, 1983 shall limit particulate matter (PM) emissions according to the equation at 326 IAC 6-2-2. Natural gas fired Boilers 1 and 2, both installed in 1978 and each rated at 5.6 MMBtu per hour, are located in Lake County, as a specifically listed county, and are limited as follows:

$$Pt = 0.87 / Q^{0.16} \quad \text{where: } Pt = \text{pounds of PM emitted per MMBtu heat input (lb/MMBtu)}$$
$$Q = \text{total source maximum operating capacity rating (MMBtu/hr)}$$

$$Pt = 0.87 / 11.2^{0.16}$$
$$= 0.591 \text{ lb PM / MMBtu, per boiler}$$

Compliance Calculation:
Potential PM Emissions for Boiler Nos. 1 and 2:

$$= 0.045 \text{ tons PM per year per boiler (see page 2 of 14 of Appendix A)}$$
$$= (0.045 \text{ tons PM/yr}) * (2,000 \text{ lbs/ton}) * (1 \text{ yr} / 8,760 \text{ hrs}) * (1 \text{ hr} / 5.6 \text{ MMBtu/hr})$$
$$= 0.002 \text{ lbs PM / MMBtu, per boiler}$$

Based on these calculations, the controlled potential emissions are less than the allowable emissions. Therefore, each boiler will be able to comply with the rule.

- (b) Pursuant to 326 IAC 6-2-1, all indirect heating facilities obtaining a permit to construct on or after September 21, 1983, shall limit particulate matter (PM) emissions according to the equation at 326 IAC 6-2-4. Natural gas fired Boiler 3, permitted to construct during 1999 and rated at 38.8 MMBtu per hour, is limited as follows:

$$Pt = 1.09 / Q^{0.26} \quad \text{where: } Pt = \text{pounds of PM emitted per MMBtu heat input (lb PM / MMBtu)}$$
$$Q = \text{total source operating capacity (MMBtu/hr)}$$

$$Pt = 1.09 / (38.8 + 11.2)^{0.26}$$
$$= 0.394 \text{ lb PM / MMBtu}$$

Compliance Calculation:
Potential PM Emissions for Boiler No. 3:

$$= 0.24 \text{ tons per year per boiler (see page 4 of 10 of Appendix A)}$$

$$\begin{aligned} &= (0.24 \text{ tons PM/yr}) * (2,000 \text{ lbs/ton}) * (1 \text{ yr} / 8,760 \text{ hrs}) * (1 \text{ hr} / 38.8 \text{ MMBtu/hr}) \\ &= 0.001 \text{ lbs PM} / \text{MMBtu} \end{aligned}$$

Based on these calculations, the controlled potential emissions are less than the allowable emissions. Therefore, the boiler will be able to comply with the rule.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

Pursuant to 326 IAC 8-9-1, on and after October 1, 1995 stationary vessels used to store volatile organic liquids (VOL) must comply with the requirement of the rule if located in Clark, Floyd, Lake or Porter Counties. The source is located in Lake County and the rule is applicable to this source for the diesel fuel oil storage tanks T001, T002, T004, and T005 with respective storage capacities of 250 gallons, 55 gallon, 200 gallons, and 2,000 gallons. Since these vessels have individual storage capacities of less than 39,000 gallons, only the record keeping and reporting requirements of 326 IAC 8-9-6 apply. Pursuant to 326 IAC 8-9-1(b), the source shall be exempt from all provisions of the rule, except records shall be maintained for the life of each storage tank:

- (a) The vessel identification number.
- (b) The vessel dimensions.
- (c) The vessel capacity.

326 IAC 8-3-2 (Cold Cleaner Operations)

The cold cleaning operation listed as insignificant activities, is subject to the requirements of 326 IAC 8-3-2 (Cold cleaner operation) since each was constructed after January 1, 1980.

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

The cold cleaning operation listed as insignificant activities, is subject to the requirements of 326 IAC 8-3-5 since each was constructed after July 1, 1990.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)

This rule applies to VOC containing storage facilities constructed after January 1, 1980, which are at sources located in specified counties. The source is located in a specified county, Lake County. However, diesel fuel oil storage tanks T001, T002, T004, and T005, with respective storage capacities of 250 gallons, 55 gallon, 200 gallons, and 2,000 gallons, are not subject to this rule since their individual capacities are below the applicable rule threshold capacity of thirty-nine thousand (39,000) gallons.

326 IAC 8-1-6 (General Reduction Requirements)

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, and which have potential volatile organic compound (VOC) emissions of 25 tons per year or more and are not otherwise regulated by other provisions of Article 8. None of the facilities at this source have a PTE of VOC equal to or greater than 25 tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply to any of the facilities at this source.

326 IAC 9-1-2 (Carbon Monoxide Emission Limits)

The process vents are not subject to 326 IAC 9-1-2 (Carbon Monoxide Emission Limits) because they are not part of emission units associated with petroleum refining, ferrous metal smelters or refuse incinerator and burning equipment.

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.

The compliance determination requirements applicable to the following facilities at this source:

Emission Unit	Control Device	Pollutant	Frequency of Testing
Reformers: 1, 2, 3, and 4; Start-Up Process Vents	None	CO	Once every 5 years

The compliance monitoring requirements applicable to this source are as follows:

Monitoring/Control Equipment	Parameter	Frequency	Range	Excursions and Exceedances
Continuous Monitor, CO Content	Accuracy	Once per 6 months	Normal-Abnormal	Response Steps
Reformer Start-up Release Valves: 006, 010, 012 & 016	Open/Close Functioning			

These monitoring conditions are necessary because necessary because Reformer No's. 1, 2, 3 and 4 must operate properly to ensure compliance with 326 IAC 2-2 (PSD Minor Limit).

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on March 16, 2012.

Conclusion

The operation of this industrial gas manufacturing source. shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. T089-31620-00435.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to James Mackenzie 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) 233-2641 or toll free at 1-800-451-6027 extension 3-2641.
- (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
 Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

UNCONTROLLED POTENTIAL EMISSIONS (ton/yr)

Pollutant	UNITS								Totals
	Boiler No. 3	Start Up Vents: Reformers 1, 2, 3 & 4	Reformers 1, 2 & 3	Reformer No. 4	CO2 Plant	Natural Gas Boiler 1 & 2	De-aerator Vents and Process Boiler Vents	Fire Pumps and Emergency Generators	
PM	0.3	0.0	1.4	1.8	0.0	0.1	0.0	0.5	4.1
PM ₁₀	1.3	0.0	5.5	7.2	0.0	0.4	0.0	0.5	14.9
PM _{2.5}	1.3	0.0	5.5	7.2	0.0	0.4	0.0	0.5	14.9
SO2	0.1	0.0	0.4	0.6	0.0	0.03	0.0	0.5	1.6
NOx	4.2	0.0	92.9	84.3	0.0	4.9	0.0	7.1	193.5
VOC	0.9	0.0	5.1	18.5	0.0	0.3	3.3	0.6	28.6
CO	14.3	437.7	10.2	9.8	28.2	4.1	1.4	1.5	507.2
GHG (as CO ₂ e)	20,517	0.0	10,015	329,172	0	5,923	0.0	264	365,890
total HAPs	0.3	0.0	3.4	1.8	0.0	0.1	3.3	0.01	8.9
worst case single HAP	0.3 (hex.)	0.0	1.8 (hex.)	1.7 (hex.)	0.0	0.1 (hex.)	3.3 (meth.)	0.004 (propyl.)	3.9 (hex.)

CONTROLLED POTENTIAL EMISSIONS (ton/yr)

Pollutant	UNITS								Totals
	Boiler No. 3	Start Up Vents: Reformers 1, 2, 3 & 4	Reformers 1, 2 & 3	Reformer No. 4	CO2 Plant	Natural Gas Boiler 1 & 2	De-aerator Vents and Process Boiler Vents	Fire Pumps and Emergency Generators	
PM	0.3	0.0	1.4	1.8	0.0	0.1	0.0	0.5	4.1
PM ₁₀	1.3	0.0	5.5	7.2	0.0	0.4	0.0	0.5	14.9
PM _{2.5}	1.3	0.0	5.5	7.2	0.0	0.4	0.0	0.5	14.9
SO2	0.1	0.0	0.4	0.6	0.0	0.03	0.0	0.5	1.6
NOx	4.2	0.0	92.9	84.3	0.0	4.9	0.0	7.2	193.6
VOC	0.9	0.0	5.1	18.5	0.0	0.3	3.3	0.6	28.6
CO	14.3	437.7	10.2	9.8	28.2	4.1	1.4	1.6	507.2
GHG (as CO ₂ e)	20,517	0.0	10,015	329,172	0.0	5,923	0.0	264	365,890
total HAPs	0.3	0.0	3.4	1.8	0.0	0.1	3.3	0.01	8.9
worst case single HAP	0.3 (hex.)	0.0	1.8 (hex.)	1.7 (hex.)	0.0	0.1 (hex.)	3.3 (meth.)	0.004 (propyl.)	3.9 (hex.)

Total emissions based on rated capacity at 8,760 hours/year, after control.

LIMITED EMISSIONS (ton/yr)

Pollutant	UNITS								Totals
	Boiler No. 3	Start Up Vents: Reformers 1, 2, 3 & 4	Reformers 1, 2 & 3	Reformer No. 4	CO2 Plant	Natural Gas Boiler 1 & 2	De-aerator Vents and Process Boiler Vents	Fire Pumps and Emergency Generators	
PM	0.3	0.0	1.4	1.8	0.0	0.1	0.0	0.5	4.1
PM ₁₀	1.3	0.0	5.5	7.2	0.0	0.4	0.0	0.5	14.9
PM _{2.5}	1.3	0.0	5.5	7.2	0.0	0.4	0.0	0.5	14.9
SO2	0.1	0.0	0.4	0.6	0.0	0.03	0.0	0.5	1.6
NOx	4.2	0.0	92.9	84.3	0.0	4.9	0.0	7.1	193.5
VOC	0.9	0.0	5.1	18.5	0.0	0.3	3.3	0.6	28.6
CO	14.3	191.1	10.2	9.8	28.2	4.1	1.4	1.5	246.4
GHG (as CO ₂ e)	20,517	0.0	10,015	329,172	0.0	5,923	0.0	264	365,890
total HAPs	0.3	0.0	3.4	1.8	0.0	0.1	3.3	0.01	8.9
worst case single HAP	0.3 (hex.)	0.0	1.8 (hex.)	1.7 (hex.)	0.0	0.1 (hex.)	3.3 (meth.)	0.004 (propyl.)	3.9 (hex.)

Limited CO emissions from stacks 006, 010, 012, 016 and Boiler #3.

Appendix A: Emissions Calculations

Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

Boilers 1 & 2: Natural Gas Combustion Only (5.6 MMBtu/hr, ea.)
 (Constructed 1978)

Heat Input Capacity	MMBtu/hr
	11.2

Potential Throughput	MMCF/yr
	98.1

Pollutant

Emission Factor in lb/MMCF		PM*	PM ₁₀ *	PM _{2.5} *	SO ₂	NO _x	VOC	CO
		1.9	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr		0.09	0.37	0.37	0.03	**see below	0.27	4.12

*PM emission factor is filterable PM only. PM₁₀/PM_{2.5} emission factor is filterable and condensable PM10 combined.

**Emission Factors for NO_x: Uncontrolled = 100, Low NO_x Burner = 50, Low NO_x Burners/Flue gas recirculation = 32

Limited PM, per 326 IAC 6-2-4

$$Pt = (0.87)/(5.6+5.6)^{0.16} =$$

0.591 lb/MMBtu

[Q = total source heat input = 5.6 + 5.6 (MMBtu/hr)]

Methodology

All emission factors are based on normal firing.

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Heat Input Capacity

	Potential Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	5,887	0.1	0.1
Summed Potential Emissions in tons/yr	5,887		
CO₂e Total in tons/yr	5,923		

Boilers 1 & 2: Natural Gas Combustion Only (5.6 MMBtu/hr, ea.)

HAPs - Organics

		Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
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		1.030E-04	5.887E-05	3.679E-03	8.830E-02	1.668E-04

HAPs - Metals

		Lead	Cadmium	Chromium	Manganese	Nickel
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		2.453E-05	5.396E-05	6.868E-05	1.864E-05	1.030E-04

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations

Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

Boiler No. 3: Natural Gas Combustion Only (38.8 MMBtu/hr)
 (Constructed 1998)

Heat Input Capacity	Potential Throughput	** Limited Throughput
MMBtu/hr	MMCF/yr	MMCF/yr
38.8	339.9	147.5

Emission Factor in lb/MMCF	Pollutant							
	PM*	PM10*	PM _{2.5} *	SO2	NOx	VOC	CO	
Potential Emission in tons/yr	1.9	7.6	7.6	0.6	25.0 **see below	5.5	84.0	
Limited Potential Emissions in tons/yr	0.3	1.3	1.3	0.1	4.2	0.9	14.3	
	0.1	0.6	0.6	0.04	1.8	0.4	6.2	

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factor for NOx are based on stack test conducted on December 1998.

Limited PM, per 326 IAC 6-2-2 $Pt = (1.09)/(38.8+5.6+5.6)^{0.26} =$ **0.394** lb/MMBtu $[Q = \text{total source heat input } (>9/21/83) = 38.8 + 5.6 + 5.6 \text{ (MMBtu/hr)}]$

Heat Input Capacity

Emission Factor for NOx are based on stack test conducted in September 2005. Emission Factors for VOC and CO are provided by source.

Other 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 (Suppl. D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Emission Factor in lb/MMcf	Potential Greenhouse Gas			Limited Greenhouse Gas		
	CO2	CH4	N2O	CO2	CH4	N2O
Potential Emission in tons/yr	120,000	2.3	2.2	120,000	2.3	2.2
Summed Potential Emissions in tons/yr	20,393	0.4	0.4	8,850	0.2	0.2
CO2e Total in tons/yr	20,394			8,850		
	20,517			8,904		

Methodology

Heat Input Capacity

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

CO2e (tons/yr) = Σ[(CO2) x (w.p.) + (CH4) x (w.p.) + (N2O) x (w.p.)] = (CO2)(ton/yr)(1) + (CH4)(ton/yr)(21) + (N2O)(ton/yr)(310).

w.p. = specific warming potential

** Limited CO emissions reflect probable usage. Actual combined CO limit for stacks (006, 020, 012, 016) and Boiler # 3 = 191.1 tpy.

HAPs Emissions

HAPs	AP-42 Factor lb/10 ⁶ Scf	Potential Emissions tons/yr	Limited Potential Emissions tons/yr
Benzene	2.10E-03	3.57E-04	1.55E-04
Dichlorobenzene	1.20E-03	2.04E-04	8.85E-05
Formaldehyde	7.50E-02	1.27E-02	5.53E-03
Hexane	1.80E+00	3.06E-01	1.33E-01
Toluene	3.40E-03	5.78E-04	2.51E-04
Lead	5.00E-04	8.50E-05	3.69E-05
Cadmium	1.10E-03	1.87E-04	8.11E-05
Chromium	1.40E-03	2.38E-04	1.03E-04
Manganese	3.80E-04	6.46E-05	2.80E-05
Nickel	2.10E-03	3.57E-04	1.55E-04
Total:		3.21E-01	1.39E-01

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations

Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

**Reformer Nos. 1, 2, 3 & 4
 Process Startup Vent Stacks 006, 010, 012, 016**

CO Emissions

Process	Emission Rate (lbs/hr)	Uncontrolled Emissions (lbs/yr)	Uncontrolled Emissions (tons/yr)
Process Vent Stack to Reformer No. 1 (S/V 006):	3,024.00	266,112	133.1
Process Vent Stack to Reformer No. 2 (S/V 010):			
CO2 Absorber, PSA Feed, or PSA Tail Gas	979.28	86,177	43.1
Process Vent Stack to Reformer No. 3 (S/V 012):			
CO2 Absorber, PSA Feed, or PSA Tail Gas	1,542.37	135,728	67.9
Process Vent Stack to Reformer No. 4 (S/V 016):			
CO2 Absorber, PSA Feed, or PSA Tail Gas	4,401.00	387,288	193.6
	9,946.65	875,305	437.7
CO Emissions Limited Emissions (total from S/V 006, 010, 012 & 016): *	0.00	0	184.9 **

Methodology

Emission rate provided by the applicant and shall be subject to continued periodic stack testing after permit issuance. During each plant startup, process gas containing CO is vented until the proper system equilibrium operating state is reached.

Uncontrolled Potential to Emit per Vent (ton/yr) = Emission Rate (lbs/hr) * 8,760 hrs/yr * 1 ton/2,000 lbs

* Based on Significant Source Modification No. 089-20918-00435, issued on July 15, 2005.

** Limited CO emissions reflect probable usage. Actual combined CO limit for stacks (006, 020, 012, 016) and Boiler # 3 = 191.1 tpy.

Limited Potential to Emit (ton/yr) = 184.90 tons per twelve (12) month period, rolled on a monthly basis, total for process vent stacks to Reformer Nos 1, 2, 3 & 4 (S/V 006, 010, 012 & 016,

Appendix A: Emission Calculations *

Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

Uncontrolled Potential to Emit (tons per year)

Heat Input Capacity (MMBtu per hour)	Facility	Potential Throughput (MMCF/yr)
45.0	Reformer No. 1 - A3	980.6
37.1	Reformer No. 2 - A8	808.4
83.8	Reformer No. 3 - A1	1,826.1

Reformers 1, 2 & 3: Natural Gas/Tail Gas Fuel

Emission Factor in lb/MMBtu	Facility	Pollutant						
		PM 0.0019	PM ₁₀ 0.0076	PM _{2.5} 0.0076	SO ₂ 0.0006	NO _x 0.0806	VOC 0.007	CO 0.014
Potential Emissions in tons/yr	Reformer No. 1 - A3	0.37	1.50	1.50	0.12	15.89	1.38	2.76
Potential Emissions in tons/yr	Reformer No. 2 - A8	0.31	1.23	1.50	0.10	13.10	1.14	2.27
Total Uncontrolled Potential to Emit (tons per year):		0.68	2.73		0.22	28.98	2.52	5.03

Emission Factor in lb/MMBtu	Facility	Pollutant						
		PM 0.0019	PM ₁₀ 0.0076	PM _{2.5} 0.0076	SO ₂ 0.0006	NO _x [*] 0.1742	VOC 0.007	CO 0.014
Potential Emissions in tons/yr	Reformer No. 3 - A1	0.70	2.79	2.79	0.22	63.94	2.57	5.14
Total Uncontrolled Potential to Emit (tons per year):		0.70	2.79	2.79	0.22	63.94	2.57	5.14

Methodology

MMBtu = 1,000,000 Btu
 MMCF = 1,000,000 Cubic Feet of Gas
 Heat content of reformer gas for Reformers (mixture of natural gas and tail gas) = 402 Btu/SCF. Reference: T089-11102-00435
 Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/402 MMBtu
 Potential Emission (tons/yr) = Heat Input Capacity (MMBtu/hr) * Emission Factor (lb/MMBtu) * (8760 hours/year) /2,000 lb/ton
 Heat Input Capacity
 (MMBtu per hour)

1.38	5.52	2.79	0.44	92.92	5.09	10.17
-------------	-------------	-------------	-------------	--------------	-------------	--------------

Emission Factor in lb/MMcf	Potential Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
Potential Emission in tons/yr	120,000	2.3	2.2
Summed Potential Emissions in tons/yr	9,954	0.2	0.2
CO₂e Total in tons/yr	10,015		

**Appendix A: Emissions Calculations
Reformers 1, 2 & 3: Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100**

HAPs	AP-42 Factor lb/10 ⁶ Scf	Potential Emissions tons/yr
Benzene	2.10E-03	3.80E-03
Dichlorobenzene	1.20E-03	2.17E-03
Formaldehyde	7.50E-02	1.36E-01
Hexane	1.80E+00	3.25E+00
Toluene	3.40E-03	6.15E-03
Lead	5.00E-04	9.04E-04
Cadmium	1.10E-03	1.99E-03
Chromium	1.40E-03	2.53E-03
Manganese	3.80E-04	6.87E-04
Nickel	2.10E-03	3.80E-03
Total:		3.41E+00

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations

Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

Reformer No. 4: Natural Gas and Tail Gas Combustion
 (Hydrogen Plant No. 4)

Max heat input : MMBtu/hr **Maximum Natural Gas Usage:** 41,400 scf/yr
Hours of Operation: hour/year **Maximum Tail Gas Usage:** 580,865 scf/yr
Heat Content of Natural Gas: 987.9 Btu/scf
Heat Content of Tail Gas: 297.7 Btu/scf
Weighted Average Heat Content: 343.6 Btu/scf

Pollutant	Emission Factors		Potential Emissions	
	AP-42 Factor lb/10 ⁶ Scf	Mfr's Spec. * lb/MMBtu	lb/hr	ton/yr
PM	1.90	n/a	0.4114	1.8
PM ₁₀	7.60	n/a	1.6456	7.2
PM _{2.5}	7.60	n/a	1.6456	7.2
SO ₂	0.60	n/a	0.1299	0.6
	n/a	0.09	19.2510	84.3
	n/a	0.0197	4.2138	18.5
	n/a	0.0105	2.2460	9.8

HAPs	AP-42 Factor			
	lb/10 ⁶ Scf			
Benzene	2.1E-03	-	0.00045	0.002
Dichlorobenzene	1.2E-03	-	0.00026	0.001
Formaldehyde	7.5E-02	-	0.01624	0.07
Hexane	1.8E+00	-	0.38974	1.7
Toluene	3.4E-03	-	0.00074	0.003
Lead	5.0E-04	-	0.00011	0.0005
Cadmium	1.1E-03	-	0.00024	0.001
Chromium	1.4E-03	-	0.00030	0.001
Manganese	3.8E-04	-	0.00008	0.0004
Nickel	2.1E-03	-	0.00045	0.002
Total HAP's				1.8

* VOC, CO, and NOx emission factors are provided by Praxair based on the manufacturer's guaranteed emission factors

Methodology

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

	Potential Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	327,181	6	6
Summed Potential Emissions in tons/yr	327,193		
CO₂e Total in tons/yr	329,172		

Note: GHG's calculated as natural gas combustion emissions: (213.9)(MMBtu/hr) x (1/343.6)(scf/Btu) x (Ef)(lb/MMcf) x (8760)(hr/yr) x (1/2000)(ton/lb)

Appendix A: Emission Calculations

Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

CO Vent Emissions from CO2 Plant**A9: Potential CO Emissions (tons/yr):**

Process	Emission Rate (lbs/hr)	Uncontrolled Emissions (lbs/yr)	Uncontrolled Emissions (tons/yr)
CO2 FeedStock Vent Or CO2 Plant Feed	6.44	56,405.64	28.20
Maximum expected emissions:	6.44	56,405.64	28.20

Methodology

- (1) Potential Emissions (ton/yr) = Emission Rate (lbs/hr) * 8,760 hrs/yr * 1 ton/2,000 lbs
- (2) Emission rate provided by the applicant and shall be subject to continued periodic stack testing after permit issuance.
- (a) The tail gas generated by the PSA units in each of the three hydrogen plans contains a significant percentage of CO2. The CO2 is extracted from the tail gas and piped to the on-site CO2 plant, which purifies and liquifies the CO2 for sale.
- (b) The CO2 feedstock to the CO2 plant contains about 520 ppm CO. This is removed during the CO2 purification process and vented continuously to the atmosphere through the CO2 vent (S/V 009). If the CO2 liquifier is down, all of the CO2 feedstock is vented temporarily through the same vent (S/V 009). Either way, the amount of CO vented remains the same.

* Taken from Appendix A to Technical Support Document for Construction Permit CP 089-10413-00435, issued June 2, 1999.

Appendix A: Emission Calculations

Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

Insignificant: VOC Emissions from the Vents**VOC Emissions from De-arator Vents (Hydrogen Plant No. 1, 2, 3 and 4)**

I. Hydrogen Plant No. 4 (A18)

The estimated VOC emission are: 0.6 tons per year (as Methanol)
 The estimated CO emissions are: 0.7 tons per year
 The estimated NH3 emissions are: 0.66 tons per year

Emissions were calculated by Praxair, using process flow information for Plant No. 4. Methanol (VOC) is created by the reformer process's chemical reaction and is emitted continuously.

II. Hydrogen Plants No. 1, 2 and 3 (A19, A20, and A21)

The estimated VOC emissions are: 0.7 tons per year (as Methanol)
 The estimated CO emissions are: 0.7 tons per year

VOC Emissions from De-arator Vents (Hydrogen Plant No. 1, 2, 3 and 4)

Praxair plant. The CO emissions have been calculated from process flow calculations. The VOC emissions have been estimated based on an emission test at a sister facility.

VOC Emissions from Process Boiler Vent

The estimated VOC emissions are: 2.0 tons per year (All VOC is Methanol)
 The estimated single/total HAPs emissions are: 2.0 tons per year

The VOC calculation of 2.0 tons/year is based on laboratory analysis of the equivalent condensate water source at another Praxair plant. The VOC is created within the CO2 Shift Converter of each hydrogen plant, and comes out in the Shift Converter's condensate. Condensate becomes part of the makeup water for the steam production at each plant. The VOC is emitted to the atmosphere when steam is vented. Except during the cold months of the year, a small percentage of the steam from Plants 1, 2 and 3 is vented from this source.

Appendix A: Emission Calculations

Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

Diesel Fuel Combustion Engines - Emergency Generators & Firewater Pump

Uncontrolled Potential to Emit (tons per year)

Output Capacity Horsepower (hp)	Facility	Potential Throughput hp-hr/yr
72.9 *	emergency electrical generator - A4	36,429
154.0	emergency electrical generator - A13	77,000
519.0	emergency electrical generator - A15	259,500
171.4	emergency firewater pump - A5	85,714

Emission Factor in lb/hp-hr	Pollutant							Greenhouse Gas
	PM	PM ₁₀	PM _{2.5}	SO ₂	NOx	VOC	CO	CO _{2e}
	0.0022	0.0022	0.0022	0.0021	0.031	0.0025	0.00668	1.15
Facility	Potential Emissions in tons/yr							
Emergency electrical generator - A4	0.04	0.04	0.04	0.04	0.6	0.05	0.1	21
Emergency electrical generator - A13	0.1	0.1	0.1	0.1	1.2	0.1	0.3	44
Emergency electrical generator - A15	0.3	0.3	0.3	0.3	4.0	0.3	0.9	149
Emergency electrical generator - A5	0.1	0.1	0.1	0.1	1.3	0.1	0.3	49
Totals	0.5	0.5	0.5	0.5	7.1	0.6	1.5	264

Methodology

Diesel-fired emergency units A4 (0.51 MMBtu/hr) & A5 (1.2 MMBtu/hr)- Power rating approximated by 7,000 Btu/hr-hp; AP42, 3.3-1 (10/96)
 Emission Factors are from AP42 (Fifth edition, Suppl. B, October, 1996), Table 3.3-1
 Potential Throughput (hp-hr/yr) = hp * 500 hr/yr
 Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

Emission Factor in lb/hp-hr	Potential Greenhouse Gas		
	CO2	CH4	N2O
	1.15	*	*
Potential Emission in ton/yr	264	0.0	0.0
Summed Potential Emissions in ton/yr	264		
CO2e Total in ton/yr	264		

Methodology

CO₂ emission factor from AP42, 3.3-1 (10/96)
 * CH₄ and N₂O emissions assumed negligible.

Appendix A: Emission Calculations

Company Name: Praxair, Inc.
 Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
 Part 70 Permit Number: T089-31620-00435
 Reviewer: James Mackenzie
 Date: 9/20/2012

Diesel Fuel Combustion Engines - Emergency Generators & Firewater Pump

HAPs	AP-42 Factor	Potential Emiss.
	(lb/10 ⁶ scf)	(tons/yr)
Benzene	9.33E-04	1.50E-03
Toluene	4.09E-04	6.57E-04
Xylenes	2.85E-04	4.57E-04
Propylene	2.58E-03	4.14E-03
1,3-Butadiene	3.91E-05	6.28E-05
Formaldehyde	1.18E-03	1.89E-03
Acetaldehyde	7.67E-04	1.23E-03
Acrolein	9.25E-05	1.48E-04
Naphthalene	8.48E-05	1.36E-04
	Total:	1.02E-02

Methodology is the same as previous page.

Emission Factors are from AP42 (Fifth edition, January 1995, Suppl. B), Table 3.3-2. Conversion factor of 7,000 Btu/hr-hr used to convert from lb/MMBtu to lb/hp-hr.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Andrew H. Campbell
Praxair, Inc.
2551 Dickey Rd
East Chicago, IN 46312

DATE: January 30, 2013

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

SUBJECT: Final Decision
Title V - Renewal
089 - 31620 - 00435

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:
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 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Toll Free (800) 451-6027
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January 30, 2013

TO: East Chicago Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Praxair, Inc.
Permit Number: 089 - 31620 - 00435

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 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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

TO: Interested Parties / Applicant

DATE: January 30, 2013

RE: Praxair, Inc. / 089 - 31620 - 00435

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 11/14/08

Mail Code 61-53

IDEM Staff	LPOGOST 1/30/2013 Praxair, Inc. 089 - 31620 - 00435 final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

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											Remarks
1		Andrew H. Campbell Praxair, Inc. 2551 Dickey Rd East Chicago IN 46312 (Source CAATS) Via confirmed delivery									
2		East Chicago City Council 4525 Indianapolis Blvd East Chicago IN 46312 (Local Official)									
3		East Chicago Public Library 2401 E Columbus Dr East Chicago IN 46312-2998 (Library)									
4		Gary - Hobart Water Corp 650 Madison St, P.O. Box M486 Gary IN 46401-0486 (Affected Party)									
5		Lake County Health Department-Gary 1145 W. 5th Ave Gary IN 46402-1795 (Health Department)									
6		WJOB / WZVN Radio 6405 Olcott Ave Hammond IN 46320 (Affected Party)									
7		Shawn Sobocinski 3229 E. Atlanta Court Portage IN 46368 (Affected Party)									
8		Ms. Carolyn Marsh Lake Michigan Calumet Advisory Council 1804 Oliver St Whiting IN 46394-1725 (Affected Party)									
9		Mark Coleman 107 Diana Road Portage IN 46368 (Affected Party)									
10		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 (Affected Party)									
11		Craig Hogarth 7901 West Morris Street Indianapolis IN 46231 (Affected Party)									
12		Lake County Commissioners 2293 N. Main St, Building A 3rd Floor Crown Point IN 46307 (Local Official)									
13		Anthony Copeland 2006 E. 140th Street East Chicago IN 46312 (Affected Party)									
14		Barbara G. Perez 506 Lilac Street East Chicago IN 46312 (Affected Party)									
15		Mr. Robert Garcia 3733 Parrish Avenue East Chicago IN 46312 (Affected Party)									

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IDEM Staff	LPOGOST 1/30/2013 Praxair, Inc. 31620 (draft/final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
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2		Joseph Hero 11723 S Oakridge Drive St. John IN 46373 (Affected Party)									
3		Gary City Council 401 Broadway # 209 Gary IN 46402 (Local Official)									
4		Mr. Larry Davis 268 South, 600 West Hebron IN 46341 (Affected Party)									
5		Ryan Dave 939 Cornwallis Munster IN 46321 (Affected Party)									
6		Matt Mikus Post Tribune 1433 E 83rd Avenue Merrillville IN 46410 (Affected Party)									
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