INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: January 14, 2007

RE: Praxair, Inc. / 089-23333-00435

FROM: Matthew Stuckey, Deputy 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 impractible to raise such issues, or if the grounds for such objection arose after the comment period.

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

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

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

Enclosures
FNTVOP.dot12/3/07

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100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY

Praxair, Inc.
2551 Dickey Road
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.: T089-23333-00435	
Original signed by: Matthew Stuckey, Deputy Branch Chief Permits Branch Office of Air Quality	Issuance Date: January 14, 2008 Expiration Date: January 14, 2013

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Stratospheric Ozone Protection

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

SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary stationary industrial gas manufacturing source.

Source Address:	2551 Dickey Road, East Chicago, Indiana 46312
Mailing Address:	P.O. Box 712, Whiting, IN 46394
General Source Phone Number:	(219) 398 - 3777
SIC Code:	2813
County Location:	Lake
Source Location Status:	Nonattainment for 8-hour ozone standard Nonattainment for PM 2.5 standard Attainment for all other criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under Emission Offset Rules Minor Source, Under PSD Rules 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, carbon monoxide (CO) containing process gas will exhaust through one (1) process vent stack identified as S/V 006.

(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.

(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;

(d) 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.

(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.

(f) 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.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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) Other categories with emissions below insignificant thresholds:

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]

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

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

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

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

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, T089-23333-00435, 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]

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. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). 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) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by the "responsible official" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, 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 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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) 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.

(b) 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 or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) 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, and 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 Section), or
Telephone Number: 317-233-0178 (ask for Compliance Section)

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 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 the certification by the "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)(9) 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.

(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

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 T089-23333-00435 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 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

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

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. 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.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.16 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 the certification by the "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.17 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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, 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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by the "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.19 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 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.20 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),(c), or (e) 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
Permits 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, 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),(c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

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

(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 the certification by the “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.21 Source Modification Requirement [326 IAC 2-7-10.5]

(a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-3 (for sources located in NA areas).

B.22 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.23 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by the "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.24 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.25 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 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 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.2 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.3 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.4 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).

C.5 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
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 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 by the "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 Accredited 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 Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

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

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

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, 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 certification by the "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 certification by the "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.7 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.8 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, 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 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 the certification by the "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.9 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment.

(b) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(c) Whenever a continuous emission monitor other than an opacity monitor is malfunctioning or will be down for calibration, maintenance, or repairs for a period of four (4) hours or more, a calibrated backup CEMS shall be brought online within four (4) hours of shutdown of the primary CEMS, and shall be operated until such time as the primary CEMS is back in operation.

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

C.10 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

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 prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on September 05, 2000.

(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]

(a) Upon detecting an excursion or exceedance, the Permittee shall 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 emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned 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 within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(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 maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions 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 take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) 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 the certification by the "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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The emission statement 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.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. 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, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

(c) If there is a “project” (as defined in 326 IAC 2-2-1(qq)) at an existing emissions unit or at a source with Plantwide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(ee)) and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Before beginning actual construction of the “project” (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) 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(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and

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

(2) 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

(3) 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. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, 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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) 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.

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

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

(g) The report for project at an existing emissions unit shall be submitted within 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 (c)(2) and (3) 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 deems fit to include in this report.

Reports required in this part shall be submitted to:

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

(h) 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 the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

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

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

SECTION D.1 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.

(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.

(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.

(d) 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.

(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.

(f) 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.

(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.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 0.395 pounds per MMBtu heat input.

This limitation is based on the following equation:

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

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

Pursuant to SSM 089-20918-00435, issued on July 15, 2005:

(a) The total carbon monoxide (CO) production rate from process vent stacks of Reformer Nos. 1, 2, 3, and 4 (S/V 006, 010, 012, and 016, respectively) shall be less than 5,057.3 thousand standard cubic feet per twelve (12) consecutive month period with compliance determined at the end of each month; and the CO density shall not exceed 72 pounds per thousand cubic foot of gas produced at standard conditions (i.e., 1 atmosphere of pressure and 70 degrees Fahrenheit temperature).

(b) CO concentrations of 34.1% and 26.3% by weight for Reformers 2 and 3, respectively, or values established through performance testing for each process vent exhausting at, stacks S/V 010 and 012 during startup of Reformers 2 and 3, respectively.

(c) CO concentrations of 18.3% and 28.8% by weight for Reformers 1 and 4, respectively, at maximum CO_2 removal, or values established through performance testing at other CO_2 removal levels for each process vent exhausting at, stacks S/V 006 and 016 during startup of Reformers 1 and 4, respectively.

(d) The usage of natural gas in Boiler No. 3 shall be limited to 147.5 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month and the CO emissions shall not exceed 84.0 lb/MMScf.

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, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for Reformer Nos. 1, 2, 3 & 4, and Boiler No. 3.

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]

(a) In order to determine compliance with Condition D.1.2, the Permittee shall perform emissions testing to determine the CO concentration for Reformer Nos. 1, 2, 3 and 4 Process vents before June 2012, utilizing the methods as approved by the Commissioner. Reformers 1 and 4 shall be tested at tail gas CO_2 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 Section C - Performance Testing.

(b) The Permitee shall perform CO concentration and NOx emissions testing on Reformer No. 4 before June 2012, utilizing methods as approved by the commissioner. This test 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 Section C - Performance Testing.

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 value 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 functionability of open/closed valve operations.

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

D.1.7 New Source Performance Standard (NSPS) Record Keeping Requirements [40 CFR 60, Subpart Dc]

Pursuant to 40 CFR 60.48c(g), the Permittee shall record and maintain records of the amounts of natural gas combusted in the Boiler No. 3 during each calendar month.

D.1.8 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) carbon monoxide production 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) The continuous records for Reformer Nos. 1, 2, 3, and 4 as follows:

(A) feedstock flow rate (standard cubic feet per hour); and

(B) continuously computed fuel (as natural gas plus tail gas) consumption rate and facility ratios of natural gas plus tail gas to feedstock flow rate used to demonstrate compliance during the most recent compliance stack test.

(3) The amount of carbon monoxide (CO) emitted for each compliance period (tons per month).

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.9 Reporting Requirements

The Permittee shall submit the following:

(a) A quarterly summary of the information to document compliance with Condition D.1.2.

The reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the Aresponsible official@ as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS

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

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) Other categories with emissions below insignificant thresholds:

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:

$Pt = 0.87 / Q^{0.16}$ where: Pt = pounds of PM emitted per MMBtu heat input (lb/MMBtu)
Q = 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^{O}C) (one hundred degrees Fahrenheit (100^{O}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^{O}C) (one hundred degrees Fahrenheit (100^{O}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^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120^{O}F)):

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

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

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), 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

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.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Praxair, Inc.
Source Address: 2551 Dickey Road, East Chicago, Indiana 46312
Mailing Address: P. O. Box 712, Whiting, IN 46394
Part 70 Permit No.: T089-23333-00435

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 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: 2551 Dickey Road, East Chicago, Indiana 46312
Mailing Address: P. O. Box 712, Whiting, IN 46394
Part 70 Permit No.: T089-23333-00435

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: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Praxair, Inc.
Source Address: 2551 Dickey Road, East Chicago, Indiana 46312
Mailing Address: P. O. Box 712, Whiting, IN 46394
Permit No.: T089-11102-00435
Facility: Reformer Nos. 1, 2, 3, and 4 process vent stacks (S/V 006, 010, 012, and 016, respectively)
Parameter: Carbon Monoxide (CO)
Limit: Total CO production rate shall be less than 5.1361 million standard cubic feet per twelve (12) consecutive month period, based on:

Year:

Month	Carbon Monoxide This Month					Total Carbon Monoxide (S/V006, 010 & 012)	
	Reformer 1 Vent (S/V006)	Reformer 2 Vent (S/V010)	Reformer 3 Vent (S/V012)	Reformer 4 Vent (S/V016)	Total (S/V006, 010, 012, & 016)	Previous 11 Months	Total 12 Months
	CO Produced (MMscf)	CO Produced (MMscf)	CO Produced (MMscf)	CO Produced (MMscf)	CO Produced (MMscf)	CO Produced (MMscf)	CO Produced (MMscf)
Month 1							
Month 2							
Month 3							

9 No deviation occurred in this month.

9 Deviation(s) occurred in this month.
Deviation has been reported on: _____

Submitted by:
Title/Position:
Signature:
Phone:
Date:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Praxair, Inc.
Source Address: 2551 Dickey Road, East Chicago, Indiana 46312
Mailing Address: P.O. Box 712, Whiting, Indiana 46394
Part 70 Permit No.: T089-23333-00435
Facility: Boiler No. 3
Parameter: Million Cubic Feet of Natural Gas burned
Limit: 147.5 Million Cubic Feet of natural gas per twelve (12) consecutive month period, with compliance determined at the end of each month, equivalent to CO emissions of 6.2 tons per year.

YEAR:_____

Month	Million Cubic Feet of Natural Gas Burned	Million Cubic Feet of Natural Gas Burned	Million Cubic Feet of Natural Gas Burned
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Praxair, Inc.
Source Address: 2551 Dickey Road, East Chicago, Indiana 46312
Mailing Address: P.O. Box 712, Whiting, Indiana 46394
Part 70 Permit No.: T089-23333-00435

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

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

□ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

□ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document for a Part 70 Operating Permit Renewal

Source Name:	Praxair, Inc.
Source Location:	2551 Dickey Road, East Chicago, Indiana 46312
County:	Lake
SIC Code:	2813
Permit Renewal No.:	T089-23333-00435
Permit Reviewer:	Adeel Yousuf / EVP

On October 10, 2007, the Office of Air Quality (OAQ) had a notice published in The Post Tribune in Merrillville, Indiana stating that Praxair, Inc. had applied for a Part 70 Operating Permit renewal relating to the operation of an industrial gas manufacturing source. The notice also stated that OAQ proposed to issue a permit renewal for this operation and provided information on how the public could review the proposed Part 70 permit renewal 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 renewal should be issued as proposed.

On November 8, 2007, Mike Barsottelli of Praxair, Inc. submitted comments on the proposed Part 70 permit renewal. The summary of the comments and corresponding responses is as follows (bolded language has been added and the language with a line through it has been deleted):

Comment 1

Page 30 of 42, Section D.1.2(c) should state Reformers 1 and 4 in both places. The Reformers "2 and 3" stated in the first line is incorrect.

Response 1

Condition D.1.2(c) has been revised to list the correct Reformer IDs.

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

Pursuant to SSM 089-20918-00435, issued on July 15, 2005:

****

(c) CO concentrations of 18.3% and 28.8% by weight for Reformers ~~2~~ **1** and ~~3~~ **4**, respectively, at maximum CO_2 removal, or values established through performance testing at other CO_2 removal levels for each process vent exhausting at, stacks S/V 006 and 016 during startup of Reformers 1 and 4, respectively.

****

Comment 2

In Section D.1.8 paragraph (a) on page 31 of 42 where the last line says "and the ammonia emission limit of D.1.4." Looking at the previous version of the permit, Condition D.1.4 used to contain the emission limits associated with the SCR on Reformer No. 3. It appears that this item was missed when removing the applicable SCR requirements from the permit and should be removed.

Response 2

Condition D.1.8(a) has been revised as requested, see OAQ change No. 5 below.

Comment 3

Page 16 of 23 of the Technical Support Document - For all of the emission sources except for Boiler No. 3, there is a line for CO emissions. Should there also be a CO line entry for Boiler No. 3?

Response 3

The row containing CO emissions for Boiler No.3 was inadvertently omitted under the 40 CFR 64 (CAM) rule applicability. Following is the information regarding CO emissions from Boiler No. 3.

Emission Unit / Pollutant	Control Device Used	Emission Limit-ation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Natural Gas Fired Boiler No. 3 - CO	**None**	**N**	**14.28**	**6.20**	**100**	**N**	**N**

While the above revision has been made, the Technical Support Document (TSD) remains unaltered. The OAQ prefers that the TSD reflect the draft version of the permit that was placed on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

Upon further review, OAQ has determined the following changes will be made to the permit:

1. Condition B.25 has been removed since there is no source modification taking place at the source in this Title V renewal permit. Condition B.26 has been re-numbered accordingly.

~~B.25 Advanced Source Modification Approval [326 IAC 2-7-5(16)] [326 IAC 2-7-10.5]~~

~~(a) The requirements to obtain a source modification approval under 326 IAC 2-7-10.5 or a permit modification under 326 IAC 2-7-12 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.~~

~~(b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.~~

B.~~26~~**25** Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

2. Table of contents has been revised as follows to correctly reflect the conditions listed in the permit:

***

B.24 Annual Fee Payment [326 IAC 2 7 19] [326 IAC 2 7 5(7)][326 IAC 2 1.1 7]
B.~~26~~**25** Credible Evidence [326 IAC 2 7 5(3)][326 IAC 2 7 6][62 FR 8314] [326 IAC 1 1 6]

***

~~C.5 Fugitive Dust Emissions [326 IAC 6.8 10 3]~~
C.~~6~~**5** Asbestos Abatement Projects [326 IAC 14 10] [326 IAC 18] [40 CFR 61, Subpart M]

***

All the following Section C conditions have been re-numbered accordingly.

D.1 FACILITY OPERATION CONDITIONS - ~~Three (3)~~ **Four (4)** Reformers, A3, A8**,** ~~and~~ A11**, and A17**; One Carbon Dioxide Purification System, A9; **and** One (1) Natural Gas Fired Boiler, A7~~; and Two (2) Diesel Fired Emergency Generators, A13 and A15~~.....~~29~~**28**

***

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.1.1 Particulate ~~Matter (PM)~~ **Emission Limitations for Sources of Indirect Heating** [326 IAC 6-2-4]
D.1.2 PSD Minor Limit [326 IAC 2-2] ~~[40 CFR 52.21]~~
***

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3. Condition A.3 has been revised to remove emergency generators (A13 and A15) and storage tanks identified under (c)(2) since they are not subject to any regulation or emission limits.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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

~~(a) 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. [326 IAC 2-3]~~

~~(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. [326 IAC 2-3]~~

***

~~(c)~~**(b)** The following volatile organic compound (VOC) and hazardous air pollutant (HAP) storage containers:

***

~~(2) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.~~

***

4. Equipment description in Section D.1 has been revised to list the correct information as contained in Section A.1 of the permit.

SECTION D.1 FACILITY OPERATION CONDITIONS

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

***

(d) 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 ~~1.52~~ **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) steam methane Reformer No. 4, identified as A17, ~~to be~~ 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.

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

5. Condition D.1.8 has been revised as follows to list the correct information and remove the language which does not apply.

D.1.8 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 ~~(5)~~ **(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 ~~and NO_x~~ emission limits ~~respectively~~ established in ~~Conditions~~ **Condition** D.1.2 ~~and D.1.3, and the ammonia emission limit of D.1.4.~~

6. Condition D.1.9 has been revised to remove D.1.9(b) since Boiler No. 3 can physically only burn natural gas, therefore, there is no need to submit the natural gas certification form.

D.1.9 Reporting Requirements

The Permittee shall submit the following:

(a) A quarterly summary of the information to document compliance with Condition D.1.2.

~~(b) Certify semi-annually on the form provided that natural gas was fired in Boiler 3 at all times during the reporting period.~~

The reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the Aresponsible official@ as defined by 326 IAC 2-7-1(34).

7. Equipment description in Section D.2 has been revised to list the correct rule cite.

SECTION D.2 FACILITY OPERATION CONDITIONS

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

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 6-2-4]~~ **[326 IAC 6-2-2]**

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

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, Indiana 46312
County:	Lake
SIC Code:	2813
Permit Renewal No.:	T089-23333-00435
Permit Reviewer:	Adeel Yousuf / EVP

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Praxair, Inc. relating to the operation of a industrial gas manufacturing source.

History

On July 10, 2006, Praxair, Inc. submitted application to the OAQ requesting to renew its operating permit. Praxair, Inc. was issued a Part 70 Operating Permit No. T089-11102-00435 on April 15, 2002.

Permitted Emission Units and Pollution Control Equipment

(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.

(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.

(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;

(d) One (1) carbon dioxide (CO_2) purification system, identified as A9 and installed in 1998, recovering and purifying CO_2 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.

(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.

(f) 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.

Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit

There are no unpermitted emission units operating at this source during this review process.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) 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. [326 IAC 2-3]

(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. [326 IAC 2-3]

(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.

(b) 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]

(c) 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]

(2) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

(d) Other categories with emissions below insignificant thresholds:

(1) 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]

(2) Deaerator Vents for Hydrogen Plants 1, 2, 3 and 4, identified as A18 through A21.

(3) Process Boiler Vent.

(e) 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]

(f) Paved roads and parking lots with public access.

(g) 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 20EC (68EF);

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

(h) Closed loop heating and cooling systems.

(i) 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.

(j) Other emergency equipment as follows: stationary fire pumps, including 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.

(k) Other categories with emissions below insignificant thresholds, including fugitive emissions from steam reformer system valves and flanges.

(l) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(m) 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.

(n) Heat exchanger cleaning and repair.

(o) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(p) Filter or coalescer media changeout.

Existing Approvals

Since the issuance of the Part 70 Operating Permit No. 089-11102-00435 on April 15, 2002, the source has constructed or has been operating under the following approvals as well:

(a) First Review Request No. 089-15874-00435, issued on July 19, 2002.

(b) First Administrative Amendment No. 089-16195-00435, issued on August 9, 2002.

(c) First Significant Permit Modification No. 089-17479-00435, issued on July 11, 2003.

(d) Second Review Request No. 089-18058-00435, issued on October 14, 2003.

(e) Second Administrative Amendment No. 089-18694-00435, issued on April 23, 2004.

(f) First Significant Source Modification No. 089-20918-00435, issued on July 15, 2005.

(g) Second Significant Permit Modification No. 089-21039-00435, issued on August 30, 2005.

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.

The following terms and conditions from previous approvals have been determined no longer applicable; therefore, were not incorporated into this Part 70 Operating Permit Renewal:

(a) SPM No. 089-21039-00435, issued on August 30, 2005.

Reason not incorporated: The source was issued initial FESOP No. 089-5553-00435 on June 13, 1997 which included Reformer No.1 (A3), costructed in 1991; two boilers (A1 and A2), constructed in 1978; emergency generator and water pump (A4 and A5), constructed in 1978. The total source wide potential VOC and NOx emissions were 1 ton and 18.28 tons per year, respectively for the entire source.

On October 8, 1997, the source was issued CP 089-8510-00435 for the construction of Boiler No. 3 (A7), Reformer no. 2 (A8), and CO_2 purification process (A9). The potential NOx emissions from the proposed modification were limited to less than 24 tons per year. The PTE (uncontrolled emissions) of VOC was 5.2 tons per year from the existing units.

On June 2, 1999, the source was issued CP 089-10413-00435 for the construction of Reformer No. 3 (A11). In this approval, carbon monoxide (CO) and nitrogen oxides (NOx) emissions limits were revised to 201.9 and 24.99 tons per year, respectively, to avoid PSD and Emission Offset rules. The PTE (uncontrolled emissions) of VOC was 6.03 tons per year after the modification. CP 089-10413-00435, issued on June 2, 1999, superceded CP 089-8510-00435, issued on October 8, 1997.

During the period these CP 089-8510-00435 and CP 089-10413-00435 were issued, the NOx waiver was in effect for the Lake County. NOx was not an nonattainment pollutant for the purposes of ozone and should have been reviewed for PSD, rather than Emission Offset. Thus, the major source threshold for NOx was 250 tons per year in the year 1999, and not 25 tons per year as determined erroneously in the above listed approval. Based on this information, the source was still a minor source under PSD since the PTE for CO and NOx was less than 250 tons per year, each. The source was a minor source for Emission Offset for Ozone because PTE of VOC was less than 25 tons per year.

Therefore, based on this determination, there is no need to limit NOx emissions from Reformer Nos. 1, 2 and Boiler No.3, control NOx emissions from Reformer No. 3, and limit operating hours for emergency generators A13 and A15. Reformer No. 3 with potential before control NOx emissions of 63.94 tons per year is currently limited to 4.44 tons per year. Removing the limit would increase the NOx emissions by 59.50 tons per year (63.94 - 4.44). Emergency generators A13 and A15 with potential emissions of 5.21 tons per year (based on potential operation of 500 hours) are currently limited to 150 hours of operation of per year. Allowing the maximum operation at 500 hours per year would increase the NOx emissions from A13 and A15 to 3.64 tons per year (5.21 - 1.57). Boiler No. 3 has potential NOx emissions of 3.13 tons per year after applying the natural gas usage limit for CO. Reformer Nos. 1 and 2 have combined potential NOx emissions of 27.36 tons per year. As a result, the total potential NOx emissions before control from Reformer Nos. 1, 2, 3, Boiler No. 3, and emergency generator (A13 and A15) will be 99.64 tons per year (63.94 + 5.21+ 3.13 + 27.36), without violating the PSD rule as it was a minor source for PSD. Following conditions have been removed or revised as a result of this change:

~~D.1.3 Emission Offset Minor Limit [326 IAC 2-3]~~

~~The source shall comply as follows:~~

~~(a) The total amount of NO_x emitted from Reformer Nos. 1, 2, 3, and Boiler No. 3, shall be limited to thirty-one and thirty-nine one-hundredths (31.95) tons per twelve (12) consecutive month period, derived from Equation (1) below. Compliance with this limit shall be determined through an equivalent fuel usage limit of 1972 million standard cubic feet (MMscf) per 12 consecutive month period using Equation (2). The algebraic formulae follow:~~

~~*Equation (1)*:~~
~~32.4 AA + 9.42 BB + 25 NN # 63,900 pounds NO_x per 12 consecutive month period~~

~~where: AA = Reformer Nos1 & 2 annual fuel consumption (MMscf/12-months)~~
~~BB = Reformer No.3 annual fuel consumption (MMscf/12-months)~~
~~NN = Boiler No.3 annual fuel consumption (MMscf/12-months)~~
~~32.4 = Reformer Nos. 1 and 2 emission factor in pounds NO_x per million standard cubic feet (MMscf) of fuel consumed (lb NO_x / MMscf)~~
~~9.42 = Reformer No. 3 emission factor (lb NO_x / MMscf)~~
~~25 = Boiler No. 3 emission factor (lb NO_x / MMscf)~~

~~*Equation (2)*:~~
~~AA + 0.291 BB + 0.772 NN # 1,972 equivalent MMscf per 12 consecutive months~~

~~The fuel usage limit of Equation (2) is an equivalent reduced form of Equation (1), derived using a common divisor of 32.4 pounds of NO_x per MMscf. Therefore, compliance with the fuel usage limit established in Equation (2) shall satisfy the NO_x limit of 31.95 tons per 12 consecutive month period.~~

~~(b) The annual fuel consumption at Reformer Nos. 1, 2, and 3, as natural gas plus tail gas, input to Equation (2) shall be determined using Equations (3) and (4) as follows:~~

~~*Equation (3)*:~~
~~AA = 1.073 * Fd1 + 1.147 * Fd2~~

~~*Equation (4)*:~~

~~BB = 1.273 * Fd3~~

~~where: Fd1 = natural gas feedstock flow to Reformer No. 1 in MMscf/12-months~~
~~Fd2 = natural gas feedstock flow to Reformer No. 2 in MMscf/12-months~~
~~Fd3 = natural gas feedstock flow to Reformer No. 3 in MMscf/12-months~~

~~(c) The coefficients in Equations (1), (2), (3), and (4) shall be adjusted as necessary, based on the results of the most recent performance test. If other coefficients are relied upon after issuance of this permit, the Permittee shall submit a request to IDEM, OAQ to amend this permit before utilization of the coefficients.~~

~~(d) The two (2) emergency generators A13 and A15 will limit combined NO_x emissions to 1.56 tons per year by limiting the operating hours of the respective 100 kW and 320 kW emergency generators to 150 hours per 12 consecutive month period each.~~

~~These limitations are equivalent to a NO_x emissions increase of less than 40 tons per twelve (12) consecutive month period due to the source modification, based on 7.96 tons per year of actual NO_x emissions prior to the modification. Therefore, the Emission Offset rules, 326 IAC 2-3, do not apply.~~

~~D.1.4 Ammonia Limitation~~

~~Pursuant to 326 IAC 2-1.1-5 (Air Quality Requirements), the concentration of ammonia at the Reformer No. 3 exhaust stack (S/V 011) shall not exceed twenty (20) parts per million by volume, dry (ppmvd) at three percent (3%) oxygen.~~

D.1.~~5~~**3** Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities ~~and control device~~.

Compliance Determination Requirements

***

D.1.~~6~~**5** Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

~~(a) During the period within 90 days after issuance of this permit, and utilizing applicable methods as approved by the Commissioner, the Permittee shall establish:~~

~~(1) the maximum ammonia injection rate for compliance with Condition D.1.4; and~~

~~(2) the coefficients and constant of Equation (6) of Condition D.1.7(b).~~

~~(b) The Permittee shall perform testing which shall be conducted in accordance with Section C - Performance Testing and, except for the schedule stated at (b)(3)(B) of this condition, such testing shall be performed during the period between 36 and 42 months after issuance of this permit as follows:~~

~~(1) Carbon monoxide (CO):~~
~~In order to demonstrate compliance with Condition D.1.2, the Permittee shall perform carbon monoxide (CO) testing utilizing methods as approved by the Commissioner, to determine the~~

~~CO composition in the gas upstream of the PSA units of Plant Nos. 1, 2, 3, and 4; and in the feed stream to the carbon dioxide liquefier, which is the same stream as that venting through S/V 009 when the carbon dioxide liquefier is not operating.~~

~~Testing shall be repeated at least once every five years from the date of this valid compliance demonstration.~~

~~(2) Nitrogen Oxides (NO_x):~~
~~In order to demonstrate compliance with Condition D.1.3, the Permittee shall:~~

~~(A) Perform nitrogen oxides (NO_x) testing at Reformer Nos. 1, 2 and 3 and Boiler No. 3 exhaust stacks (S/V 003, 008, 011 and 007, respectively) utilizing methods as approved by the Commissioner.~~

~~(B) Determine the ratios of natural gas plus tail gas usage to the natural gas feedstock flow for each of Reformer Nos. 1, 2 & 3.~~

~~Testing shall be repeated at least once every five years from the date of this valid compliance demonstration.~~

~~(3) Selective Catalytic Reduction (SCR) Unit:~~
~~In order to demonstrate compliance with Conditions D.1.3 and D.1.4, the Permittee shall:~~

~~(A) Test for the following using applicable methods as approved by the Commissioner:~~

~~(i) ammonia injection rate at the Reformer No. 3 SCR NO_x control system;~~

~~(ii) ammonia concentration at stack S/V011;~~

~~(iii) Reformer No. 3 operating rate fraction, as a fraction of the reformer design firing rate;~~

~~(iv) SCR system downstream temperature (F); and~~
~~(v) average percent (%) oxygen (O2) in the flue gas of the two (2) Reformer No. 3 cans, on a wet basis.~~

~~Testing shall be repeated at least once every five years from the date of this valid compliance demonstration.~~

~~(B) During the period between 18 to 24 months after issuance of this permit, the Permittee shall test the SCR catalyst for degradation to confirm the efficiency of the control device. As recommended by the SCR vendor, this test shall be repeated at least once every two (2) years from the date of this valid compliance demonstration.~~

(a) In order to determine compliance with Condition D.1.2, the Permittee shall perform carbon monoxide (CO) emissions testing for Reformer Nos. 1, 2, 3 and 4 Process vents before June 2012, utilizing the methods as approved by the Commissioner. This test 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 Section C - Performance Testing.

(~~c~~**b**) ~~Within 180 days after initial start-up of the Hydrogen Plant No. 4, the Permittee shall perform CO and NOx testing on Reformer No. 4 utilizing methods as approved by the commissioner. This test 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 Section C - Performance Testing.~~ **The Permitee shall perform CO and NOx emissions testing on Reformer No. 4 before June 2012, utilizing methods as approved by the commissioner. This test 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 Section C - Performance Testing.**

~~D.1.7 Selective Catalytic Reduction (SCR) System~~

~~The Permittee shall operate the Reformer No. 3 SCR control system as follows:~~

~~(a) In order to comply with Condition D.1.3, the minimum SCR control system downstream temperature shall not be less than 550 degrees Fahrenheit (EF), and the rate of ammonia (NH_3) injected to the SCR unit shall not be less than that determined by performance testing and shall be continuously computed using Equation (5) as follows:~~

~~*Equation (5)*:~~
~~NH_3 injection rate (pounds per hour) = (0.328 + 1.258*O_2) * ORF~~

~~where: O_2 = average percent (%) oxygen (O_2) in the flue gas of the two (2) Reformer No. 3 cans, on a wet basis, and~~

~~ORF = Reformer No. 3 operating rate fraction (ORF), expressed as a fraction of the reformer design firing rate.~~

~~(b) In order to comply with Condition D.1.4, the rate of ammonia (NH_3) injected to the SCR unit shall be maintained at a level that does not exceed that determined by performance testing and shall be continuously computed using Equation (6):~~

~~*Equation (6)*:~~
~~NH_3 injection rate (pounds per hour) = (0.668 + 1.258*O_2) * ORF~~

~~where: O_2 = average percent (%) oxygen (O_2) in the flue gas of the two (2) Reformer No. 3 cans, on a wet basis~~
~~ORF = Reformer No. 3 operating rate fraction (ORF), expressed as a fraction of the reformer design firing rate~~

~~(c) The coefficients in Equations (5) and (6) shall be adjusted as necessary, based on the results of the most recent performance test approved by IDEM, OAQ. If other coefficients are relied upon after issuance of this~~

~~permit, the Permittee shall submit a request to IDEM, OAQ, to modify this permit before utilization of the coefficients.~~

~~(d) Reformer No. 3 SCR system shall operate at all times that the process is in operation. When operating, the SCR system shall maintain ammonia injection rates within the range determined from the most recent compliance stack test, as approved by IDEM. The minimum ammonia injection rate correlates to a NO_x reduction efficiency (percent, %) determined from the latest performance test.~~

~~D.1.8 CO and NOx Emissions~~

~~Compliance with Conditions D.1.2 and D.1.3 shall be demonstrated within 30 days of the end of each month, respectively based on the total carbon monoxide (CO) produced and the total fuel usage for the most recent twelve (12) month period.~~

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

D.1.~~9~~**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 of Reformers 1, 2, 3, and 4, respectively, for ~~measuring duration of vent valve openings~~ **compiling CO emissions using software with input of duration of vent value openings, plus process throughput**. The output of this system shall be recorded to continuously compute the amount of carbon monoxide vented to demonstrate compliance with Condition D.1.2.

~~(b) A continuous monitoring system shall be calibrated, maintained, and operated on Reformer No. 3 for measuring:~~

~~(1) the oxygen content (percent, %) in the flue gas of the two reformer cans, on a wet basis;~~

~~(2) the capacity of the facility as a fraction of the design firing rate;~~

~~(3) the SCR system downstream temperature (EF); and~~

~~(4) the amount of ammonia injected to the facility=s selective catalytic reduction (SCR) system.~~

~~The output of this system shall be recorded, and the minimum downstream temperature and ammonia injection rate shall not be less than the minimum temperature and injection rate established at D.1.7(a), nor greater than the maximum injection rate established at D.1.7(b), based on the most recent compliance stack test.~~

~~(c) The Permittee shall take all reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports for these units when the temperature or ammonia injection rate is outside the above mentioned range for any one reading. A temperature or ammonia injection rate reading that is outside of the above mentioned range is not a deviation from the permit. Failure to take response steps in accordance with~~

~~Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.~~

(~~d~~**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 functionability of open/closed valve operations.

~~(e) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.~~

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

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D.1.~~10~~**8** Record Keeping Requirements

~~(a) Pursuant to 40 CFR Part 60.48c (Reporting and Record Keeping Requirements):~~

~~(1) Records shall be maintained of the amount of natural gas combusted during each month by Boiler No. 3, rated at 38.8 million Btu per hour. [40 CFR Part 60.48c(g)]~~

~~(2) These records shall be maintained for a period of at least the past 24 months and be made available upon request to the Office of Air Quality (OAQ). [40 CFR Part 60.48c(i)]~~

(~~b~~**a**) To document compliance with Condition~~s~~ D.1.2~~, D.1.3, and D.1.4~~, the Permittee shall maintain records in accordance with (1) through (~~5~~**3**) below. Records maintained for (1) through (~~5~~**3**) shall be taken continuously, except where otherwise indicated. ~~Including paragraph (a)(1) of this condition, the~~ **The** records shall be complete and sufficient to establish compliance with the CO ~~and NO_x~~ emission limit~~s~~ ~~respectively~~ established in Condition~~s~~ D.1.2 ~~and D.1.3~~, ~~and the ammonia emission limit of D.1.4.~~

(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) carbon monoxide production 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) The continuous records for Reformer No. 3 as follows:~~

~~(A) average flue gas oxygen content of the reformer cans (percent, %, wet);~~

~~(B) capacity as a fraction of design firing rate;~~

~~(C) continuous records of the SCR system downstream temperature (EF); and~~

~~(D) ammonia injection rate (pounds per hour) to the SCR system and the minimum and maximum ammonia injection rate used to demonstrate compliance during the most recent compliance stack test.~~

(~~3~~**2**) The continuous records for Reformer Nos. 1, 2, 3, and 4 as follows:

(A) feedstock flow rate (standard cubic feet per hour); and

(B) continuously computed fuel (as natural gas plus tail gas) consumption rate and facility ratios of natural gas plus tail gas to feedstock flow rate used to demonstrate compliance during the most recent compliance stack test.

(~~4~~**3**) The amount of carbon monoxide (CO) emitted for each compliance period (tons per month).

~~(5) The amount of nitrogen oxides (NO_x) emitted for each compliance period (tons per month).~~

~~(c) To document compliance with Conditions D.1.5 and D.1.9, the Permittee shall maintain a log of those inspections prescribed by the Preventive Maintenance Plan.~~

(~~d~~**b**) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.~~11~~**9** Reporting Requirements

The Permittee shall submit the following:

(a) A quarterly summary of the information to document compliance with Condition~~s~~ D.1.2 ~~and D.1.3~~.

(b) Certify semi-annually on the form provided that natural gas was fired in Boiler 3 at all times during the reporting period.

The reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported. The report submitted by the Permittee does require the certification by the Aresponsible official@ as defined by 326 IAC 2-7-1(34).

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

Pollutant	Status
PM_{10}	maintenance attainment
$PM_{2.5}$	nonattainment
SO_2	maintenance attainment
NOx	maintenance attainment
8-hour Ozone	moderate nonattainment
CO	maintenance attainment
Lead	attainment

(a) U.S. EPA in Federal Register Notice 70 FR 943 dated January 5, 2005 has designated Lake County, as nonattainment for PM2.5. On March 7, 2005 the Indiana Attorney General's Office on behalf of IDEM filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of non-attainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM10 emissions as surrogate for PM2.5 emissions pursuant to the Nonattainment New Source Review requirements. See the State Rule Applicability - Entire Source section.

(a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone.

(1) On December 22, 2006 the United States Court of Appeals, District of Columbia issued a decision which served to partially vacate and remand the U.S. EPA's final rule for implementation of the eight-hour National Ambient Air quality Standard for ozone. *South Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882 (D.C. Cir., December 22, 2006), *rehearing denied* 2007 U.S. App. LEXIS 13748 (D.C. Cir., June 8, 2007). The U.S. EPA has instructed IDEM to issue permits in accordance with its interpretation of the *South Coast* decision as follows: Gary-Lake-Porter County was previously designated as a severe non-attainment area prior to revocation of the one-hour ozone standard, therefore, pursuant to the anti-backsliding provisions of the Clean Air Act, any new or existing source must be subject to the major source applicability cut-offs and offset ratios under the area's previous one-hour standard designation. This means that a source must achieve the Lowest Achievable Emission Rate (LAER) if it exceeds 25 tons per year of VOC emissions and must offset any increase in VOC emissions by a decrease of 1.3 times that amount.

On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NOx threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards. Therefore, VOC emissions were reviewed pursuant to the requirements for nonattainment new source review. See the State Rule Applicability for the source section.

(2) VOC and NOx emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. Lake County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.

(c) Lake County has been classified as attainment or maintenance attainment in Indiana for PM10, SO_2, NO_x, CO, and Lead. Therefore, these 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.

(d) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	Less than 100
PM-10	Less than 100
SO_2	Less than 100
VOC	Less than 100
CO	Greter than 250
NO_x	Greater than 100 and Less than 250

HAPs	tons/year
Hexane	Less than 10
Methanol	Less than 10
Propylene	Less than 10
Others	Less than 10
Total	Less than 25

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of CO and NOx is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	Not Reported
PM-10	4.0
SO_2	0.0
VOC	4.0
CO	21.0
NO_x	24.0
HAPs	Not Reported

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet 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 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.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Process Gas Combustion in Reformer Nos. 1, 2 & 3	1.34	5.37	0.42	4.95	9.89	91.30	3.16 (single) 3.32 (total)
Natural Gas Combustion in Boiler No. 3	0.14	0.56	0.04	0.41	6.20	1.84	0.13 (single) 0.14 (total)
Reformer Nos. 1, 2, 3 & 4 Process Vent Stacks S/V 006, 010, 012 & 016	0.00	0.00	0.00	0.00	184.9	0.00	0.00
CO2 Plant Vent Stack	0.00	0.00	0.00	0.00	28.20	0.00	0.00
Reformer No. 4 (Natural Gas and Process Gas Combustion)	1.80	7.21	0.57	18.46	9.84	84.32	1.70 (single) 1.79 (total)
Insignificant Activities: Boilers Nos. 1 & 2, Emergency Generators (A4, A5, A13, and A15)	0.60	0.88	0.51	0.85	5.67	12.12	0.088 (single) 0.10 (total)
Insignificant Activity: Process Boiler Vent	0.00	0.00	0.00	2.0	0.00	0.00	2.0 (single/total)
Insignificant Activity: Deaerator Vents (A18, A19, A20, and A21)	0.00	0.00	0.00	1.30	1.40	0.00	1.30 (single/total)
Total Emissions	3.89	14.02	1.54	27.96	246.10	189.58	5.07 (single) 8.65 (total)

(a) This existing stationary source is not major for PSD because the emissions of each criteria pollutant are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.

(b) This existing stationary source is major for Emission Offset because the emissions of the nonattainment pollutants, NOx and VOC, are greater than one hundred (>100) and twenty five (> 25) tons per year, respectively.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

Federal Rule Applicability

The following federal rules are applicable to the source:

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to existing emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the 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.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each existing emission unit involved:

Emission Unit / Pollutant	Control Device Used	Emission Limit-ation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Natural Gas Fired Boiler No. 3 - PM	None	N	0.32	0.14	100	N	N
Natural Gas Fired Boiler No. 3 - PM10	None	N	1.29	0.56	100	N	N
Natural Gas Fired Boiler No. 3 - SO2	None	N	0.10	0.04	100	N	N
Natural Gas Fired Boiler No. 3 - NOx	None	Y	4.25	1.84	100	N	N
Natural Gas Fired Boiler No. 3 - VOC	None	N	0.93	0.41	100	N	N
Natural Gas Fired Boiler No. 3 - HAP	None	N	Single HAP < 10 Total HAPs < 10	Single HAP < 10 Total HAPs < 10	Single HAP - 10 Total HAPs - 25	N	N
Reformer No. 1 - PM	None	N	0.34	0.34	100	N	N
Reformer No. 1 - PM10	None	N	1.34	1.34	100	N	N
Reformer No. 1 - SO2	None	N	0.11	0.11	100	N	N
Reformer No. 1 - NOx	None	Y	14.26	14.26	100	N	N
Reformer No. 1 - VOC	None	N	1.24	1.24	100	N	N
Reformer No. 1 - CO	None	N	2.48	2.48	100	N	N
Reformer No. 1 - HAP	None	N	Single HAP < 10 Total HAPs < 10	Single HAP < 10 Total HAPs < 10	Single HAP - 10 Total HAPs - 25	N	N
Reformer No. 2 - PM	None	N	0.31	0.31	100	N	N
Reformer No. 2 - PM10	None	N	1.23	1.23	100	N	N
Reformer No. 2 - SO2	None	N	0.10	0.10	100	N	N
Reformer No. 2 - NOx	None	Y	13.10	13.10	100	N	N
Reformer No. 2 - VOC	None	N	1.14	1.14	100	N	N
Reformer No. 2 - CO	None	N	2.27	2.27	100	N	N
Reformer No. 2 - HAP	None	N	Single HAP < 10 Total HAPs < 10	Single HAP < 10 Total HAPs < 10	Single HAP - 10 Total HAPs - 25	N	N
Reformer No. 3 - PM	None	N	0.70	0.70	100	N	N
Reformer No. 3 - PM10	None	N	2.79	2.79	100	N	N
Reformer No. 3 - SO2	None	N	0.22	0.22	100	N	N
Reformer No. 3 - NOx	None	Y	29.58	29.58	100	N	N
Reformer No. 3 - VOC	None	N	2.57	2.57	100	N	N
Reformer No. 3 - CO	None	N	5.14	5.14	100	N	N
Reformer No. 3 - HAP	None	N	Single HAP < 10	Single HAP < 10	Single HAP - 10	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limit-ation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
			Total HAPs < 10	Total HAPs < 10	Total HAPs - 25		
Reformer No. 4 - PM	None	N	1.80	1.80	100	N	N
Reformer No. 4 - PM10	None	N	7.21	7.21	100	N	N
Reformer No. 4 - SO2	None	N	0.57	0.57	100	N	N
Reformer No. 4 - NOx	None	N	84.32	84.32	100	N	N
Reformer No. 4 - VOC	None	N	18.46	18.46	100	N	N
Reformer No. 4 - CO	None	N	9.84	9.84	100	N	N
Reformer No. 4 - HAP	None	N	Single HAP < 10 Total HAPs < 10	Single HAP < 10 Total HAPs < 10	Single HAP - 10 Total HAPs - 25	N	N
Start Up Vents to Reformer Nos. 1, 2, 3 & 4 - CO	None	Y	46,065.5	184.9	100	N	N
CO2 Plant Vent Stack - CO	None	N	28.20	28.20	100	N	N
Deaerator Vents - VOC	None	N	1.30	1.30	100	N	N
Deaerator Vents - CO	None	N	1.40	1.40	100	N	N
Deaerator Vents - HAP	None	N	Single HAP < 10 Total HAPs < 10	Single HAP < 10 Total HAPs < 10	Single HAP - 10 Total HAPs - 25	N	N

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) 40 CFR Part 60, Subparts K, Ka, and Kb (Standards of Performance for Petroleum Liquid Storage Vessels and Volatile Liquid Storage Vessels)

The requirements of New Source Performance Standard, 326 IAC 12, (40 CFR Parts 60.110, 110a - 115a or 110b - 117b, as Subparts K, Ka, and Kb, respectively) are not included in the permit for storage tanks identified as T001, T002, T004, and T005, with respective storage capacities of 250 gallons, 55 gallon, 200 gallons, and 2,000 gallons, are not subject to the since the tank storage capacities are below the minimum applicable threshold to the three rules (i.e., 75 cubic meters (19,812.9 gallons)).

(c) The requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c - 60.48c, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) are not included in the permit for natural gas fired boiler Nos. 1 and 2, each with a maximum heat input capacity of 5.3 MMBtu per hour because the each boiler's capacity is less than the rule applicability threshold of 10 MMBtu per hour.

(d) The one (1) 38.8 MMBtu per hour natural gas fired boiler identified as Boiler No. 3, constructed in 1999, is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c - 60.48c, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) 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.

Nonapplicable portions of the NSPS will not be included in the permit. The boiler is subject to the following portions of Subpart Dc:
(1) 40 CFR 60.40c (a)
(2) 40 CFR 60.41c

(3) 40 CFR 60.48c (g)
The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the boiler described in this section except when otherwise specified in 40 CFR 60, Subpart Dc.

(f) The requirements of 40 CFR Part 63, Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (326 IAC 20-82) are not included in this permit. This rule applies to reciprocating internal combustion engines (RICE) located at a major source of HAP emissions. This source is not a major source of HAP emissions.

(g) The requirements of 40 CFR Part 63, Subpart Q – National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers (326 IAC 20-4) are not included in this permit. This NESHAP applies to cooling towers that are operated with chromium-based water treatment chemicals. This source does not use chromium-based water treatment chemicals in its water towers.

(h) The requirements of the National Emission Standards for Hazardous Air Pollutants, 326 IAC 20, (40 CFR 63, Subpart T) are not included for the cold cleaning degreasing operation since parts washing solvent used does not contain any halogenated solvents.

(i) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 61, and 326 IAC 20 and 40 CFR Part 63) included in the permit.

State Rule Applicability - Entire Source

326 IAC 2-4.1-1 (New Source Toxics Control)
This source is not subject to 326 IAC 2-4.1-1 (New Source Toxics Control) because no new or reconstructed facilities with a PTE of any single HAP at 10 tons per year or 25 tons per year of a combination of HAPs have been installed since July 27, 1997 and the source is not a major source for HAPs. Therefore, 326 IAC 2-4.1-1 does not apply.

326 IAC 2-1.1-5 (Nonattainment NSR)
Lake County has been designated as nonattainment for PM2.5. According to an EPA guidance memo dated April 5, 2005, PM-10 is to be utilized as a surrogate for PM2.5 until the EPA can promulgate the PM2.5 implementation rule. PM10 emissions, and therefore PM2.5 emissions, from this source are less than one hundred (100) tons per twelve consecutive month period. There have been no modifications to this source that would have made it a major source of PM10 emissions. Therefore, this source is not subject to nonattainment new source review requirements for PM2.5 emissions.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
This source was constructed in 1991, after the August 7, 1977 rule applicability date and modified in 1997, 1999, and 2005. The potential to emit of all attainment 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. Under the SSM 089-20918-00435, issued on June 15, 2005, the source accepted a limit of 184.9 tons per year on the total carbon monoxide (CO) emission rate from process vent stacks of Reformer Nos. 1, 2, 3, and 4 (S/V 006, 010, 012, and 016, respectively). The CO emissions from the natural gas fired boiler No. 3 shall also be limited to less than 5.98 tons per year based on annual natural gas usage limit of 147.5 MMSCF per year. The above listed CO emission limits which apply to Reformer Nos. 1, 2, 3, & 4, and Boiler No. 3, are required to limit the source-wide potential to emit of CO to less than 250 tons per 12 consecutive month period, including the potential to emit of CO for all other existing facilities. Compliance with these limits renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

326 IAC 2-3 (Emission Offset)

The source was a minor source under 326 IAC 2-3 (Emission Offset) with potential to emit of VOC and NOx of less than 25 and 100 tons per year, respectively, until 2005. However, with the issuance of SSM 089-20918-00435 on July 15, 2005, the total sourcewide potential to emit of NOx exceeded 100 tons per year, respectively, and the source became a major source under 326 IAC 2-3 (Emission Offset). As such, any future modification made to this source shall be reviewed pursuant to the requirements of 326 IAC 2-3 (Emission Offset). No modifications have occurred at this source since July 15, 2005.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit under 326 IAC 2-7, Part 70 program. Pursuant to this rule, the Permittee shall submit an emission statement certified pursuant to the requirements of 326 IAC 2-6. In accordance with the compliance schedule specified in 326 IAC 2-6-3, an emission statement must be submitted triennially by July 1 beginning in 2004 and every 3 years after. Therefore, the next emission statement for this source must be submitted by July 1, 2010. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in the 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.

325 IAC 6-5 (Particulate Matter Limitations Except Lake County)

This source is not subject to 325 IAC 6-5 (Particulate Matter Limitations Except Lake County) because the source is located in Lake County which is exempt under 326 IAC 6-5-1(a).

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).

326 IAC 6.8 (Particulate Emission Limitations for Lake County)

This source is not subject to the requirements of 326 IAC 6.8, because the source is not specifically listed in 326 IAC 6.8-2 through 326 IAC 6.8-11, the source does not have the potential to emit one hundred (100) tons or more per year of particulate matter, and does not have actual emissions of ten (10) tons or more per year of particulate matter.

326 IAC 6.8-10 (Fugitive Particulate Matter Emission Limitations for Lake County)

This source is not subject to the requirements of 326 IAC 6.8-10, because it does not have the potential to emit five (5) tons per year fugitive particulate matter into the atmosphere in Lake County.

State Rule Applicability – Individual Facilities

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 VOC at 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 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 (Applicability), 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:

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

$Pt = 0.87 / 11.2^{0.16}$
$= 0.591$ lb PM / MMBtu, per boiler

Compliance Calculation

Potential PM Emissions for Boiler Nos. 1 and 2:

= 0.045 tons PM per year per boiler (see page 2 of 14 of Appendix A)
= (0.045 tons PM/yr) * (2,000 lbs/ton) * (1 yr / 8,760 hrs) * (1 hr / 5.6 MMBtu/hr)
= 0.002 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 (Applicability), 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:

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

$Pt = 1.09 / (38.8 + 11.2)^{0.26}$
$= 0.394$ lb PM / MMBtu

Compliance Calculation

Potential PM Emissions for Boiler No. 3:

= 0.24 tons per year per boiler (see page 4 of 10 of Appendix A)
= (0.24 tons PM/yr) * (2,000 lbs/ton) * (1 yr / 8,760 hrs) * (1 hr / 38.8 MMBtu/hr)
= 0.001 lbs PM / MMBtu

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 8-4-3 (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 8-9 (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 9-1-2 (Carbon Monoxide Emission Limits)

The process vents are not subject to 326 IAC 9-1-2 (Carbon Monoxide Emission Limits). The process vents are not petroleum refining, ferrous metal smelters or refuse incinerator and burning equipment.

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.

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	Timeframe for Testing	Pollutant	Frequency of Testing
Reformer Nos. 1, 2, 3 and Boiler No. 3	None	Before March 2011	NOx	Once every 5 years
Reformer 4	None	Before June 2012	CO and NOx	Once every 5 years
Reformer 1, 2, 3, and Process Vents	None	Before June 2012	CO	Once every 5 years

The compliance monitoring requirements applicable to this source are as follows:

(a) The Reformer Nos. 1, 2, 3 and 4 process vent stacks have applicable compliance determination conditions as specified below:

(1) 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 of Reformers 1, 2, 3, and 4, respectively, for measuring duration of vent valve openings. The output of this system shall be recorded to continuously compute the amount of carbon monoxide vented to demonstrate compliance with Condition D.1.2.

(2) 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 functionability of open/closed valve operations.

These monitoring conditions are necessary because Reformer Nos. 1, 2, 3 and 4 must operate properly to ensure compliance with 326 IAC 2-2 (PSD Minor Limit), 326 IAC 2-3 (Emission Offset Minor Limit) and 326 IAC 2-7 (Part 70).

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal 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 July 10, 2006.

Conclusion

The operation of this industrial gas manufacturing source shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. T089-23333-00435.

Appendix A: Emission Calculations

Company Name: Praxair, Inc.
Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
Part 70 Permit Number: T089-23333-00435
Reviewer: Adeel Yousuf / EVP
Date: April 25, 2007

Uncontrolled Potential Emissions (tons/year)

Pollutant	Natural Gas Boiler Nos. 1 & 2 Insignificant	Natural Gas Boiler No. 3	Reformer Nos. 1, 2 & 3	Start Up Vents Reformers 1, 2, 3 & 4	CO2 Plant Emissions	Reformer No. 4	Deaerator Vents and Process Boiler Vents Insignificant	Fire Pumps and Emergency Generators Insignificant	**Total**
PM	0.09	0.32	1.34	0.00	0.00	1.80	0.00	0.51	4.07
PM10	0.37	1.29	5.37	0.00	0.00	7.21	0.00	0.51	14.75
SO2	0.03	0.10	0.42	0.00	0.00	0.57	0.00	0.48	1.60
NOx	4.91	4.25	91.30	0.00	0.00	84.32	0.00	7.21	191.99
VOC	0.27	0.93	4.95	0.00	0.00	18.46	3.30	0.58	28.48
CO	4.12	14.28	9.89	437.65	28.20	9.84	1.40	1.55	506.94
total HAPs	0.09	0.32	3.32	0.00	0.00	1.79	3.30	0.01	8.83
worst case single HAP	0.0883 (Hexane)	0.306 (Hexane)	3.16 (Hexane)	0.00	0.00	1.70 (Hexane)	3.30 (Methanol)	0.0042 (Propylene)	5.25 (Hexane)

Controlled/Limited Potential Emissions (tons/year)

Pollutant	Natural Gas Boiler Nos. 1 & 2 Insignificant	Natural Gas Boiler No. 3	Reformer Nos. 1, 2 & 3	Start Up Vents Reformers 1, 2, 3 & 4	CO2 Plant Emissions	Reformer No. 4	Deaerator Vents and Process Boiler Vents Insignificant	Fire Pumps and Emergency Generators Insignificant	**Total**
PM	0.09	0.14	1.34	0.00	0.00	1.80	0.00	0.51	3.89
PM10	0.37	0.56	5.37	0.00	0.00	7.21	0.00	0.51	14.02
SO2	0.03	0.04	0.42	0.00	0.00	0.57	0.00	0.48	1.54
NOx	4.91	1.84	91.30	0.00	0.00	84.32	0.00	7.21	189.58
VOC	0.27	0.41	4.95	0.00	0.00	18.46	3.30	0.58	27.96
CO	4.12	6.20	9.89	184.90	28.20	9.84	1.40	1.55	246.10
total HAPs	0.09	0.14	3.32	0.00	0.00	1.79	3.30	0.01	8.65
worst case single HAP	0.0883 (Hexane)	0.133 (Hexane)	3.16 (Hexane)	0.00	0.00	1.70 (Hexane)	3.30 (Methanol)	0.0042 (Propylene)	5.07 (Hexane)

Total emissions based on rated capacity at 8,760 hours/year, after control.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **Praxair, Inc.**
Address City IN Zip: **2551 Dickey Road, East Chicago, Indiana 46312**
Part 70 Permit Number: **T089-23333-00435**
Reviewer: **Adeel Yousuf / EVP**
Date: **April 25, 2007**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
11.2	98.1

Two (2) natural gas fired boiler, identified as Boiler Nos. 1 & 2, each rated at maximum heat input capacity of 5.60 MMBtu per hour

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.09	0.37	0.03	4.91	0.27	4.12

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
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 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100

HAPs Emissions

Company Name: **Praxair, Inc.**
Address City IN Zip: **2551 Dickey Road, East Chicago, Indiana 46312**
Part 70 Permit Number: **T089-23333-00435**
Reviewer: **Adeel Yousuf / EVP**
Date: **April 25, 2007**

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

9.258E-02

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
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **Praxair, Inc.**
Address City IN Zip: **2551 Dickey Road, East Chicago, Indiana 46312**
Part 70 Permit Number: **T089-23333-00435**
Reviewer: **Adeel Yousuf / EVP**
Date: **April 25, 2007**

Heat Input Capacity	Potential Throughput	Potential Throughput
MMBtu/hr	MMCF/yr	MMCF/yr
38.8	339.9	147.50

One (1) natural gas fired boiler, identified as Boiler No. 3, rated at maximum heat input capacity of 38.8 MMBtu per hour

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	25.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.32	1.29	0.10	4.25	0.93	14.28
Limited Potential Emissions in tons/yr	0.14	0.56	0.04	1.84	0.41	6.20

*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.

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100

HAPs Emissions

Company Name: **Praxair, Inc.**
Address City IN Zip: **2551 Dickey Road, East Chicago, Indiana 46312**
Part 70 Permit Number: **T089-23333-00435**
Reviewer: **Adeel Yousuf / EVP**
Date: **April 25, 2007**

HAPs	AP-42 Factor	Potential Emissions	Limited Potential Emissions
	lb/10^6 Scf	tons/yr	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 *
Reformers 1, 2 & 3 Firing Natural Gas/Tail Gas Fuel

Company Name: Praxair, Inc.
Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
Part 70 Permit Number: T089-23333-00435
Reviewer: Adeel Yousuf / EVP
Date: April 25, 2007

Uncontolled Potential to Emit (tons per year)

Heat Input Capacity (MMBtu per hour)	Facility	Potential Throughput (MMCF/yr)
40.4	Reformer No. 1 - A3	880.4
37.1	Reformer No. 2 - A8	808.4
83.8	Reformer No. 3 - A11	1,826.1

	Facility	Pollutant					
		PM	PM-10	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu		0.0019	0.0076	0.0006	0.0806	0.007	0.014
Potential Emissions in tons/yr	Reformer No. 1 - A3	0.34	1.34	0.11	14.26	1.24	2.48
Potential Emissions in tons/yr	Reformer No. 2 - A8	0.31	1.23	0.10	13.10	1.14	2.27
Total Uncontrolled Potential to Emit (tons per year):		0.64	2.58	0.20	27.36	2.38	4.75

	Facility	Pollutant					
		PM	PM-10	SO2	NOx*	VOC	CO
Emission Factor in lb/MMBtu		0.0019	0.0076	0.0006	0.1742	0.007	0.014
Potential Emissions in tons/yr	Reformer No. 3 - A11	0.70	2.79	0.22	63.94	2.57	5.14
Total Uncontrolled Potential to Emit (tons per year):		0.70	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 #1 and #2 (mixture of natural gas and tail gas) = 402 Btu/SCF
Heat content of reformer gas for Reformer #3 (mixture of natural gas and tail gas) = 451 Btu/SCF
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
Emission Factors for PM, PM-10 & SO2 from AP 42, Chapter 1.4, Tables 1.4-1 and 1.4-2, SCC #1-01-006-02, #1-02-006-02, #1-03-006-02, #1-03-006-03. Emission Factors for NOx, CO and VOC are based on vendor-provided data.
* Nox emission factor for Reformer NO. 3 is based on the stack test conducted in January, 2007, without using SCR control for NOx. The NOx emissions also reflects the 10% safety factor.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100

HAPs Emissions

Company Name: **Praxair, Inc.**
Address City IN Zip: **2551 Dickey Road, East Chicago, Indiana 46312**
Part 70 Permit Number: **T089-23333-00435**
Reviewer: **Adeel Yousuf / EVP**
Date: **April 25, 2007**

HAPs	AP-42 Factor	Potential Emissions
	lb/10^6 Scf	tons/yr
Benzene	2.10E-03	3.69E-03
Dichlorobenzene	1.20E-03	2.11E-03
Formaldehyde	7.50E-02	1.32E-01
Hexane	1.80E+00	3.16E+00
Toluene	3.40E-03	5.98E-03
Lead	5.00E-04	8.79E-04
Cadmium	1.10E-03	1.93E-03
Chromium	1.40E-03	2.46E-03
Manganese	3.80E-04	6.68E-04
Nickel	2.10E-03	3.69E-03
	Total:	3.32E+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
Reformer Nos. 1, 2 & 3 Process Startup Vent Stacks

Company Name: **Praxair, Inc.**
Address City IN Zip: **2551 Dickey Road, East Chicago, Indiana 46312**
Part 70 Permit Number: **T089-23333-00435**
Reviewer: **Adeel Yousuf / EVP**
Date: **April 25, 2007**

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	266,112.00	133.06
Process Vent Stack to Reformer No. 2 (S/V 010):			
CO2 Absorber, PSA Feed, or PSA Tail Gas	979.28	86,176.64	43.09
Process Vent Stack to Reformer No. 3 (S/V 012):			
CO2 Absorber, PSA Feed, or PSA Tail Gas	1,542.37	135,728.39	67.86
Process Vent Stack to Reformer No. 4 (S/V 016):			
CO2 Absorber, PSA Feed, or PSA Tail Gas	4,401.00	387,288.00	193.64
Uncontrolled Potential to Emit (total from S/V 006, 010, 012 & 16)	9,946.65	875,305.03	437.65
Limited Potential to Emit (total from S/V 006, 010, 012 & 016): *	42.21	369,800.00	184.90

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 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, respectively).

Appendix A: Emission Calculations *
CO Vent Emissions from CO2 Plant

Company Name: Praxair, Inc.
Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
Part 70 Permit Number: T089-23333-00435
Reviewer: Adeel Yousuf / EVP
Date: April 25, 2007

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
Hydrogen Plant No. 4
Natural Gas Combustion Emissions

Company Name: Praxair, Inc.
Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
Part 70 Permit Number: T089-23333-00435
Reviewer: Adeel Yousuf / EVP
Date: April 25, 2007

Emissions from the Combustion of natural gas and tail gas in Reformer No. 4 (A17)

Max heat input :	213.9 MMBtu/hr	**Maximum Natural Gas Usage:**	41,400 Scf/yr
		Maximum Tail Gas Usage:	580,865 Scf/yr
Hours of Operation:	8,760 hour/year	**Heat Content of Natural Gas:**	987.9 Btu/Scf
		Heat Content of Tail Gas:	297.7 Btu/Scf
		Weighted Average Heat Content:	343.62 Btu/Scf

	Emission Factors		Total Emissions	
Pollutant	AP-42 Factor	Mfg's Spec. *		
	lb/10^6 Scf	lb/MMBtu	lb/hr	ton/yr
PM	1.90	n/a	0.4114	1.80
PM10	7.60	n/a	1.6456	7.21
SO2	0.60	n/a	0.1299	0.57
NOx	n/a	0.09	19.2510	84.32
VOC	n/a	0.0197	4.2138	18.46
CO	n/a	0.0105	2.2460	9.84
HAPs	AP-42 Factor			
	lb/10^6 Scf			
Benzene	2.1E-03		0.00045	0.00199
Dichlorobenzene	1.2E-03		0.00026	0.00114
Formaldehyde	7.5E-02		0.01624	0.07113
Hexane	1.8E+00		0.38974	1.70704
Toluene	3.4E-03		0.00074	0.00322
Lead	5.0E-04		0.00011	0.00047
Cadmium	1.1E-03		0.00024	0.00104
Chromium	1.4E-03		0.00030	0.00133
Manganese	3.8E-04		0.00008	0.00036
Nickel	2.1E-03		0.00045	0.00199
		Total		1.79

Notes:
PM, PM10 and SO2 emission factors are from AP-42, Chapter 1.4, Table 1.4-2 (5th Edition, revised 7/98
HAPs emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (5th Edition, revised 7/98)
* VOC, CO, and NOx emission factors are provided by Praxair based on the manufacturers 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)

Appendix A: Emission Calculations
Insignificant: VOC Emissions from the Vents

Company Name: **Praxair, Inc.**
Address City IN Zip: **2551 Dickey Road, East Chicago, Indiana 46312**
Part 70 Permit Number: **T089-23333-00435**
Reviewer: **Adeel Yousuf / EVP**
Date: **April 25, 2007**

VOC Emissions from Dearator 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
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 reforming 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
The estimated CO emissions are: 0.7 tons per year
The estimated NH3 emissions are: 0.58 tons per year

These minimal quantities are existing emissions from currently permitted sources that have recently been identified at another 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 facility The VOC is created within the CO2 Shift Convertor of each hydrogen plant, and comes out in the Shift Convertor's condensate water. That Condensate becomes part of the makeup water for the steam production at each plant. The VOC is emitted to the atmosphere only whenev 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 continuously f this source.

Appendix A: Emission Calculations
Combustion Engines - Diesel Fuel
Emergency Generators & Firewater Pump

Company Name: Praxair, Inc.
Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
Part 70 Permit Number: T089-23333-00435
Reviewer: Adeel Yousuf / EVP
Date: April 25, 2007

Uncontolled Potential to Emit (tons per year)

Output Capacity Horsepower (hp)	Facility	Potential Throughput hp-hr/yr
92.0	emergency electrical generator - A4	46,000.0
154.0	emergency electrical generator - A13	77,000.0
519.0	emergency electrical generator - A15	259,500.0
165.0	emergency firewater pump - A5	82,500.0

	Facility	Pollutant					
		PM	PM-10	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr		0.0022	0.0022	0.0021	0.031	0.0025	0.00668
Potential Emissions in tons/yr	emergency electrical generator - A4	0.05	0.05	0.05	0.71	0.06	0.15
Potential Emissions in tons/yr	emergency electrical generator - A13	0.08	0.08	0.08	1.19	0.10	0.26
Potential Emissions in tons/yr	emergency electrical generator - A15	0.29	0.29	0.27	4.02	0.32	0.87
Potential Emissions in tons/yr	emergency firewater pump - A5	0.09	0.09	0.08	1.28	0.10	0.28
Total Uncontrolled Potential to Emit (tons per year):		0.51	0.51	0.48	7.21	0.58	1.55

Methodology

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)

Appendix A: Emissions Calculations
Combustion Engines - Diesel Fuel
Emergency Generators & Firewater Pump
HAPs Emissions

Company Name: Praxair, Inc.
Address City IN Zip: 2551 Dickey Road, East Chicago, Indiana 46312
Part 70 Permit Number: T089-23333-00435
Reviewer: Adeel Yousuf / EVP
Date: April 25, 2007

HAPs	AP-42 Factor	Potential Emissions
	lb/10^6 Scf	tons/yr
Benzene	9.33E-04	1.52E-03
Toluene	4.09E-04	6.66E-04
Xylenes	2.85E-04	4.64E-04
Propylene	2.58E-03	4.20E-03
1,3-Butadiene	3.91E-05	6.36E-05
Formaldehyde	1.18E-03	1.92E-03
Acetaldehyde	7.67E-04	1.25E-03
Acrolein	9.25E-05	1.51E-04
Naphthalene	8.48E-05	1.38E-04
	Total:	1.04E-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.