INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.state.in.us/idem

PART 70 OPERATING PERMIT
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.

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. This permit and the conditions listed herein replace and supercede Federally Enforceable State Operating Permit No. F089-5553-00184, issued pursuant to 326 IAC 2-8 on June 13, 1997.

Operation Permit No.: T089-11102-00435	
Issued by: Original signed by Paul Dubenetzky Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: April 15, 2002 Expiration Date: April 15, 2007

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.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 industrial gas manufacturing source.

Responsible Official:	Rob Shearer
Source Address:	2551 Dickey Road, East Chicago, Indiana 46312
Mailing Address:	P.O. Box 712, Whiting, Indiana 46394
General Source Phone Number:	(219) 398-3777
SIC Code:	2813
County Location:	Lake
Source Location Status:	Nonattainment for ozone, SO_2 and PM-10 Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD and Emission Offset Rules

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 and selective catalytic reduction (SCR) for NOx pollution control, 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 and A11, with a process design rate of 154,000 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 5,065 SCFH and containing no more than 1.52 percent (%) by volume of carbon monoxide (CO). When the carbon dioxide purification system is not operating, the feed gas generated from reformers A3, A8 and A11 will exhaust through one (1) stack identified as S/V 009, at maximum design flow rate of 154,000 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 1999, rated at 38.8 MMBtu per hour, and exhausting at one (1) stack identified as S/V 007.

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) 320 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]

(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 No. Boiler 1, identified as A1 and installed in 1978, rated at 5.3 MMBtu per hour, and exhausting at one (1) stack identified as SV001.
[326 IAC 6-2-2]

(2) One (1) natural gas fired No. Boiler 2, identified as A2 and installed in 1978, rated at 5.3 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:

Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including four (4) diesel fuel oil storage tanks, identified as T001, T002, T003 and T004, with storage capacities of 250 gallons, 55 gallons, 55 gallons and 200 gallons, respectively. [326 IAC 8-9]

(d) 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]

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]

This permit is issued for a fixed term of five (5) years from the original date, 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.

B.3 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.4 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.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 Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)] [326 IAC 2-7-6(6)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) 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 or, for information claimed to be confidential, the Permittee may furnish such records directly to the U. S. EPA along with a claim of confidentiality. [326 IAC 2-7-5(6)(E)]

(c) 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 Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; or

(3) Denial of a permit renewal application.

(b) Noncompliance with any provisions of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act.

(c) 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.

(d) 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.

B.9 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 a 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.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

B.10 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. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than April 15 of each year to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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.11 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 prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:

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

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

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

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP and the PMP extension notification do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept 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.12 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 the IDEM Northwest Indiana 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: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967
Telephone No.: 219-881-6712 (IDEM Northwest Indiana Regional Office)
Facsimile No.: 219-881-6745 (IDEM Northwest Indiana Regional Office)

(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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

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

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

B.13 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 in 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)(7)]

B.14 Prior Permit Conditions Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either

(1) incorporated as originally stated,

(2) revised, or

(3) deleted

by this permit.

(b) All previous registrations and permits are superseded by this permit.

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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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.

(c) Emergencies shall be included in the Quarterly Deviation and Compliance Monitoring Report.

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 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 2-7-4]

(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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

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

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

(B) 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.

(2) If IDEM, OAQ, upon receiving a timely and complete 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.

(c) Right to Operate After Application for Renewal [326 IAC 2-7-3]
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.

(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]
If IDEM, OAQ, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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)(D)(i) 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 emissions allowable under 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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 which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20(b), (c), or (e) and makes 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), (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 increases and decreases in emissions in 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.

B.21 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by 326 IAC 2 and 326 IAC 2-7-10.5.

B.22 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2]

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) Have access to and copy any records that must be kept under the conditions of this permit;

(c) Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) 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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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)]

(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 317-233-0425 (ask for OAQ, Technical Support and Modeling Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

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

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

C.4 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. 326 IAC 9-1-2 is not federally enforceable.

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

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

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

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

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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 14-10-4, 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) 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 that the inspector be accredited, pursuant to the provisions of 40 CFR 61, Subpart M, is federally enforceable.

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

C.8 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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 source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

Unless otherwise specified in this permit, 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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.11 Maintenance of Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the emission monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less often than once an hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.12 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.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) Whenever a condition in this permit requires the measurement of a gas flow rate or content (as constituent percentage), or temperature, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

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

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

C.14 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 5, 2000.

(b) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(c) 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.15 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present at a source in more than a threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall submit:

(a) A compliance schedule for meeting the requirements of 40 CFR 68; or

(b) As a part of the annual compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and

(c) A Risk Management Plan was prepared as required by 40 CFR 68 and submitted to IDEM, OAQ on June 18, 1999.

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.16 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ, upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:

(1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.

(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:

(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or

(2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.

(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.

(4) Failure to take reasonable response steps shall constitute a violation of the permit.

(c) The Permittee is not required to take any further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.

(e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.17 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 and 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 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.18 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) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate estimated actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate estimated actual emissions of other regulated pollutants (as defined by 326 IAC 2-7-1) from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The annual 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.19 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(a) Records of all required data, reports and support information 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 kept 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.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

(a) The source 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(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) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

Stratospheric Ozone Protection

C.21 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 and selective catalytic reduction (SCR) for NOx pollution control, 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 and A11, with a process design rate of 154,000 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 5,065 SCFH and containing no more than 1.52 percent (%) by volume of carbon monoxide (CO). When the carbon dioxide purification system is not operating, the feed gas generated from reformers A3, A8 and A11 will exhaust through one (1) stack identified as S/V 009, at maximum design flow rate of 154,000 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 1999, rated at 38.8 MMBtu per hour, and exhausting at one (1) stack identified as S/V 007;

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) 320 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]

(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 Matter (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating: Emission Limitations for Facilities Specified in 326 IAC 6-2-1 (d)), the PM emissions from the 38.8 MMBtu per hour heat input Boiler No. 3, identified as A7, shall be limited to 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] [40 CFR 52.21]

Pursuant to CP 089-10413-00435, issued June 2, 1999, the source shall comply as follows:

(a) The total carbon monoxide (CO) production rate from process vent stacks of Reformer Nos. 1, 2, and 3 (S/V 006, 010, and 012, respectively) shall be limited to 5.45 million standard cubic feet (MMscf) per twelve (12) consecutive month period, based on:

(1) CO density of 0.072 pounds per cubic foot of gas produced at standard conditions (i.e., 1 atmosphere of pressure and 70 degrees Fahrenheit temperature).

(2) CO concentrations established through performance testing pursuant to Condition D.1.6(b) for each process vent connected to, and exhausting at, stacks S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively. Process vent CO concentrations shall be adjusted as necessary based on the results of the most recently approved performance test.

(b) Instrumentation that continuously computes the amount of CO vented at each process vent connected to stacks S/V 006, 010 and 012, as a function of the duration and amount of vent valve opening, shall be permanently installed on Reformer Nos. 1, 2, and 3 and shall be tested in accordance with Condition D.1.6(b).

(c) This production limit is equivalent to limiting total CO emissions from the process vent stacks of Reformer Nos. 1, 2, and 3 (S/V 006, 010, and 012, respectively) to 196.1 tons per 12 consecutive month period. Compliance with this condition shall limit the source-wide potential to emit CO to less than 250 tons per 12 consecutive month period, including the potential to emit CO for other existing facilities. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, do not apply.

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

Pursuant to CP 089-10413-00435, issued June 2, 1999, 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 ninety-five 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 1,972 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 1.0 ton per year by limiting the operating hours of the respective 100 kW and 320 kW emergency generators to 100 hours per 12 consecutive month period each.

These limitations are equivalent to a NO_x emissions increase of less than 25 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 fifteen percent (15%) oxygen.

D.1.5 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 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 and 3; 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 (EF); and

(v) average percent (%) oxygen (O_2) 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.

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 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) = $(0.42 + 1.258*O_2) * ORF$

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

The coefficients in Equation (5) 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.

(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) = $(a + b*O_2 + c*T) * ORF$

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
T = SCR system downstream temperature, EF
a,b,c = algebraic constants, determined by testing

The coefficients in Equation (6) shall be established pursuant to Condition D.1.6(a). Upon completion of initial performance testing, the Permittee shall submit a request to IDEM, OAQ to amend this permit condition to establish a final Equation (6). If other coefficients are relied upon after initial testing, the Permittee shall submit a request to IDEM, OAQ to amend this permit before utilization of the coefficients.

(c) 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 NO_x 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 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 and 012 during startup of Reformers 1, 2 and 3, respectively, for measuring duration and amount 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.

(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 ammonia injection rate shall not be less than the minimum 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 ammonia injection rate is outside the above mentioned range for any one reading. An 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 violation of this permit.

(d) 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.

(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]

D.1.10 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) To document compliance with Conditions D.1.2 and D.1.3, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) 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 D.1.2 and D.1.3.

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

(A) vent valve opening duration and amount for each process vent connected to, and exhausting at, stacks S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively; and

(B) carbon monoxide production at Reformer Nos. 1, 2 and 3 process vent stacks (S/V006, 010 and 012, 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; and

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

(3) The continuous records for Reformer Nos. 1, 2 and 3 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) 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 Condition D.1.4, the Permittee shall maintain records in accordance with (1) through (2) below. Records maintained for (1) through (2) shall be taken continuously, except where otherwise indicated. Including paragraph (b)(2) of this condition, the records shall be complete and sufficient to establish compliance with the ammonia emission limit established in Condition D.1.4.

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

(2) the maximum ammonia injection rate used to demonstrate compliance during the most recent compliance stack test.

(d) 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.

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

D.1.11 Reporting Requirements

The Permittee shall submit the following:

(a) A quarterly summary of the information to document compliance with Conditions 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 “responsible 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):

(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 No. 1, identified as A1 and installed in 1978, rated at 5.3 MMBtu per hour, and exhausting at one (1) stack identified as SV001.

(2) One (1) natural gas fired Boiler No. 2, identified as A2 and installed in 1978, rated at 5.3 MMBtu per hour, and exhausting at one (1) stack identified as SV002.

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

Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including four (4) diesel fuel oil storage tanks, identified as T001, T002, T003 and T004, with storage capacities of 250 gallons, 55 gallons, 55 gallons and 200 gallons, respectively. [326 IAC 8-9]

(d) 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]

(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 (Particulate Matter Emission Limitations for Sources of Indirect Heating: Emission Limitations for Facilities Specified in 326 IAC 6-2-1(a)), the PM emissions from each of 5.3 MMBtu per hour heat input Boiler Nos. 1 and 2, respectfully identified as A1 and A2, shall be limited to 0.596 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)

Compliance Determination Requirement

There are no applicable compliance determination conditions, including compliance testing, for these facilities.

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

There are no applicable compliance monitoring conditions for these facilities.

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

D.2.2 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, T003, T004 and T005:

(a) Maintain a record and submit to the department a report containing the following information for each vessel:

(1) The vessel identification number.

(2) The vessel dimensions.

(3) The vessel capacity.

(b) All records required by (b)(1) of this condition shall be maintained for the life of the affected vessel.

(c) The report shall be submitted to the addresses listed in Section C - General Reporting Requirements within thirty (30) days after the end of the first calendar quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

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, Indiana 46394
Part 70 Permit No.: T089-11102-00435

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:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Affidavit (specify) _____

9 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
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

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, Indiana 46394
Part 70 Permit No.: T089-11102-00435

This form consists of 2 pages **Page 1 of 2**

9 This is an emergency as defined in 326 IAC 2-7-1(12)

- C The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
- C The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), 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 Describe:
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

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

PART 70 OPERATING PERMIT
SEMI-ANNUAL NATURAL GAS FIRED BOILER CERTIFICATION

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.: T089-11102-00435

9	Natural Gas Only
9	Alternate Fuel Burned From:_____ To:_____

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:

A certification by the responsible official as defined by 326 IAC 2-7-1(34) is required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
100 North Senate Avenue / P.O. Box 6015 / Indianapolis, Indiana 46206-6015

Part 70 Quarterly Report

Source Name: Praxair, Inc.
Source Address: 2551 Dickey Road, East Chicago, Indiana 46312
Permit No.: T089-11102-00435
Facility: Boiler #3, Reformer #1, Reformer #2, and Reformer #3
Parameter: Nitrogen Oxides (NO_x), as equivalent fuel usage
Limit: Total fuel usage at Reformer Nos.1, 2, 3, and Boiler No.3 shall be limited to 1,972 equivalent million standard cubic feet (MMscf) per twelve (12) consecutive month period, determined from Equation (2) of Condition D.1.3 as follows:

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

where: AA = Reformer Nos.1 and 2 annual fuel (as natural gas plus tail gas) consumption in MMscf ;Fd1 = natural gas feedstock flow to Reformer No. 1 in MMscf
=1.073 * Fd1 + 1.147 * Fd2 ;Fd2 = natural gas feedstock flow to Reformer No. 2 in MMscf
BB = Reformer No.3 annual fuel (as natural gas plus tail gas) consumption in MMscf ;Fd3 = natural gas feedstock flow to Reformer No. 3 in MMscf
=1.273 * Fd3
NN = Boiler No.3 annual fuel (as natural gas) consumption in MMscf

Year:

Month	Fuel Usage This Month (MMscf)							Total Fuel Usage (AA+0.291BB+0.772NN)	
	Reformer Nos. 1 & 2			Reformer No. 3		Boiler No. 3 (NN)	Total Fuel This Month (AA+0.291BB+0.772NN)	Previous 11 Months (MMscf)	Total 12 Months (MMscf)
	Fd1	Fd2	AA	Fd3	BB				
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

100 North Senate Avenue / P.O. Box 6015 / Indianapolis, Indiana 46206-6015

Part 70 Quarterly Report

Source Name: Praxair, Inc.
Source Address: 2551 Dickey Road, East Chicago, Indiana 46312
Permit No.: T089-11102-00435
Facility: Reformer Nos. 1, 2, 3 process vent stacks (S/V 006, 010, and 012, respectively)
Parameter: Carbon Monoxide (CO)
Limit: Total CO production rate shall be limited to 5.45 million standard cubic feet (MMscf) per twelve (12) consecutive month period, based on:

(1) CO density of 0.072 pounds per cubic foot of gas produced at standard conditions (i.e., 1 atmosphere of pressure and 70 degrees Fahrenheit temperature).

(2) CO concentrations established through performance testing pursuant to Condition D.1.6 (a) for each process vent connected to, and exhausting at, stacks S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively. Process vent CO concentrations shall be adjusted as necessary based on the results of the most recently approved performance test.

(3) Instrumentation that continuously computes the amount of CO vented at each process vent connected to stacks S/V 006, 010 and 012, as a function of the duration and amount of vent valve opening, shall be permanently installed on Reformer Nos. 1, 2, and 3 and shall be periodically tested.

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)		Total (S/V006, 010 & 012)		Previous 11 Months		Total 12 Months	
	CO Produced	CO Emitted	CO Produced	CO Emitted	CO Produced	CO Emitted	CO Produced	CO Emitted	CO Produced	CO Emitted	CO Produced	CO Emitted
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

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

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.: T089-11102-00435
Facility: Emergency Generators A13 and A15
Parameter: Operating hours
Limit: The two (2) emergency generators A13 and A15 will limit the operating hours of the respective 100 kW and 320 kW units to 100 hours per 12 consecutive month period each.

Year: _____

Month	Operating Hours This Month		Operating Hours Previous 11 Months		Total Operating Hours 12 Months	
	A13	A15	A13	A15	A13	A15

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

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

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.: T089-11102-00435

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the requirements stated in this permit. 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. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do 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".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 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:	

Page 2 of 2

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 (TSD) for a Part 70 Operating Permit

Source Name:	Praxair, Inc.
Source Location:	2551 Dickey Road, East Chicago, Indiana 46312 (previously Foot of Standard Avenue, Whiting, Indiana 46394)
County:	Lake
Operation Permit No.:	T089-11102-00435
SIC Code:	2813
Permit Reviewer:	Michael Hirtler / EVP

On February 27, 2001, the Office of Air Quality (OAQ) had a notice published in both The Post Tribune in Merrillville, Indiana and The Times in Munster, Indiana, stating that Praxair, Inc. had applied for a Part 70 operating permit for their East Chicago (formerly Whiting), Indiana industrial gas manufacturing source which produces gaseous hydrogen and carbon dioxide (CO_2). The notice also stated that OAQ proposed to issue a Part 70 Operating Permit for this source and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Part 70 Operating Permit should be issued as proposed.

On March 28, 2001 and December 21, 2001, Praxair, Inc. submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows, with new language in bold and deleted language with a line through it. Due to the number of changes made, the revised Part 70 Operating Permit Table of Contents should be consulted for the new page numbers to the revised conditions described below.

Comments 1 and 2:

Page 1 of 51 - Cover Page:

Official address has changed. Delete “Foot of Standard Avenue, Whiting, Indiana 46394" and replace it with “Praxair, Inc. 2551 Dickey Road, East Chicago, Indiana 46312.” Nothing has changed as to the physical location of the facility, only how the City of East Chicago wants our address to read.

Page 5 of 51 - Section A.1:

Source Address should now be **2551 Dickey Road, East Chicago, IN 46312**.
Mailing Address should now be **P.O. Box 712, Whiting, IN 46394.**

Also, the name of the Responsible Official has changed to Rob Shearer. Rob is located at the Praxair engineering center in Tonawanda, NY, and not at the Whiting plant (now East Chicago), which should be stated in Section A.1 if possible.

Response to 1 and 2:

Section A.1 is revised to change the source address and the mailing address, and no physical change has been made to the source based to this comment. Other references to the source address and mailing address, including the permit cover page, permit header, and report forms, are similarly revised without replication herein. Further, the name of the Responsible Official (R.O.) has been revised. IDEM acknowledges that the R. O. is not located at the Whiting (now East Chicago) plant and, pursuant to 326 IAC 2-7-1(34), it is not a requisite that such apply to the R.O. Also, the OAQ has decided to include a general source phone number for the Whiting (now East Chicago) plant in Section A.1. The changes are as follows:

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 industrial gas manufacturing source.

Responsible Official:	~~Michael R. Lutz, Vice President~~ **Rob Shearer**
Source Address:	~~Foot of Standard Avenue, Whiting, Indiana 46394~~ **2551 Dickey Road, East Chicago IN 46312**
Mailing Address:	~~Foot of Standard Avenue, Whiting, Indiana 46394~~ **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 ozone, SO_2 and PM-10 Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD and Emission Offset Rules

Comment 3:

Pages 6 and 7 of 51 - Section A.3(c):

There are two additional fuel oil storage tanks, to be designated as T004 (200 gallons) and T005 (2,000 gallons). Both of these tanks have annual throughputs of less than 12,000 gallons. The diesel fuel oil storage tanks are also mentioned on Pages 41 and 42 of 51. Also, the rating of Emergency Generator A-15 should be changed from 350 kilowatts (kw) to 320 kw.

Response to 3:

Pursuant to 326 Indiana Air Code (IAC) 2-7-1(21), tanks T004 and T005 are considered as insignificant activities. Additionally, and 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 diesel fuel oil storage tanks T004 and T005. No other rules apply to these facilities. Therefore, as specifically regulated insignificant activities, Section A.3, Section D.2 (Facility Description), and Condition D.2.2 are revised to include tanks T004 and T005 as shown below. Additionally, Condition D.2.2, paragraph (a)(4), has been eliminated since this requirement applies only to vessels with storage capacities at or exceeding 39,000 gallons, and this threshold is greater than the individual storage capacities of T001, T002, T003, T004 and T005. Finally, Section A.3, Section D.1 (Facility Description), Condition D.1.3, and the associated quarterly reporting form are all updated to revise the capacity of Emergency Generator A-15. Except for Section A.3, the changes for A-15 are made without replication below.

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~~ **320** 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]

(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 5.3 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 5.3 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)~~ **four (4)** diesel fuel oil storage tanks, identified as T001, T002, ~~and~~ T003 **and T004**, with storage capacities of 250 gallons, 55 gallons ~~and~~ 55 gallons **and 200 gallons**, respectively. [326 IAC 8-9]

(d) 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]

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):

(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)~~ **four (4)** diesel fuel oil storage tanks, identified as T001, T002, ~~and~~ T003 **and T004**, with storage capacities of 250 gallons, 55 gallons ~~and~~ 55 gallons **and 200 gallons**, respectively. [326 IAC 8-9]

(d) 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]

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

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

D.2.2 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, ~~and~~ T003 **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.

~~(4) A description of the emission control equipment, or a schedule for installation of emission control equipment, for each vessel described in 326 IAC 8-9-4(a) or (b).~~

(b) All records required by (a) of this condition shall be maintained for the life of the affected vessel.

(c) The report shall be submitted to the addresses listed in Section C - General Reporting Requirements within thirty (30) days after the end of the first calendar quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Comment 4:

Page 10 of 51 - Condition B.10 and Page 30 of 51 - Condition C.18:

There appears to be a conflict between these sections in the definition of emissions reporting "year". One says January through December, the other says December through November. Please clarify.

Response to 4:

Consistent with 326 IAC 2-7-6(5), Condition B.10 (Annual Compliance Certification) requires the source to submit an annual compliance certification. IDEM has decided that this certification should reflect the prior calendar year (i.e., January 1 to December 31), and should be submitted coincident with the emission statement required per Condition C.19 (now renumbered C.18). The emission statement filing deadline is either April 15 or July 1 of each year, and the respective filings must cover the prior periods of December 1 to November 30 or January 1 to December 31, where the source-specific dates are defined at 326 IAC 2-6-1 (Applicability of Rule). Pursuant to 326 IAC 2-6-1, this source meets the criteria for both filing dates, and the earlier filing date is utilized in the draft Part 70 permit. Also, this date is consistent with the previous FESOP No. 089-5553-00435, issued on June 13, 1997 (approval of this Part 70 permit will replace the existing FESOP). There is no change to Condition B.10 nor C.18 due to this comment.

Comment 5:

Various Sections, re Who To Notify:

Sections B.7, B.10, B.11, B.12, B.15, B.17, B.18, B.20, B.23, C.9, C.11, C.16, C.19 and C.21 require notifying, contacting or reporting to both the IDEM-OAQ in Indianapolis and the IDEM Northwest Regional Office in Gary. We believe that it would be appropriate for the permit to require notification to **one** of these offices (IDEM's choice), rather than both. It is our understanding that there are parts of Indiana where there is no IDEM regional office.

Response to 5:

Except for Condition B.12 (b)(4) and (f) (Emergency Provisions), the permit is revised to delete reference to the IDEM Northwest Indiana Regional Office and the source shall direct all written and verbal correspondence to the IDEM, OAQ, central office in Indianapolis, Indiana as applicable. These changes are made without replication herein. The requirement to notify the IDEM Northwest Indiana Regional Office is retained at Condition B.12 (b)(4) and (f). Pursuant to 326 IAC 2-7-16 (Emergency Provisions), the source is required to notify the Commissioner when the requirements of the rule apply. IDEM, acting on behalf of the Commissioner, has decided that the regional office, as a branch office of IDEM, must be notified along with the central office (i.e, Indianapolis, Indiana) when the requirements of the rule, as Condition B.12 in the Part 70 permit, apply.

Comment 6:

Page 23 of 51 - Section C.1:

Please delete Section C.1. There is no support for this provision, because there are no such sources at the facility as described in the TSD. Therefore, we do not believe that IDEM has established that this is an "applicable requirement".

Response to 6:

Condition C.1 is included in the permit as a general requirement to allow individual small facilities that are subject only to 326 IAC 6-3 and general opacity rules to be treated as unlisted insignificant activities. Even if the source does not currently utilize process equipment meeting the process weight rate criteria, the condition also serves to simplify future approvals of small facilities affected by 326 IAC 6-3. Condition C.1 remains unchanged based on this comment.

Comment 7:

Page 23 of 51 - Section C.6:

This does not appear to be applicable. Rule 326 IAC 6-1-11.1 applies to sources with a potential-to-emit of 5 tons/year or more of fugitive particulate matter. There is nothing in the TSD which finds, or would support a finding, that our facility meets the applicability criterion.

Response to 7:

For those sources in Lake County not specifically listed in the rule, 326 IAC 6-1-11.1 (Lake County Fugitive Particulate Matter Control Requirements) requires those specified facilities and operations at a source that have a potential to emit five (5) tons per year or more of fugitive particulate matter; or PM_{10} for new sources, to comply with the applicable control requirements. As a non-listed source, the only listed facility or operation conducted at the plant includes vehicle travel on paved roads and parking lots. The source has indicated that vehicle travel at the plant occurs only on paved surfaces. While the Part 70 permit application form GSD10(a) listed paved roads as an insignificant activity, pursuant to 326 IAC 2-7-1(21)(G)(xiii), no supporting calculations were provided to demonstrate that potential PM emission rates from onsite paved road travel would be less than 5 tons per year.

The source has provided a potential PM/PM_{10} emission rate computation using the current relevant section from U.S. EPA's AP-42 emission factor document, Section 13.2.1 (Paved Roads), dated October 1997, as follows:

$PTE = E * VMT$

where: $E = k (sL / 2)^{0.65} * (W / 3)^{1.5}$

- PTE = potential to emit PM or PM_{10} (tons per year)
- VMT = vehicle miles traveled (9.77 VMT per day, based on 43 vehicles per day and a maximum plant roadway length for each vehicle (0.23 miles, round-trip))
- E = PM/PM_{10} emission factor (pounds emitted per VMT, lb/VMT)
- k = particle size multiplier (0.082 lb/VMT for PM; 0.016 lb/VMT for PM_{10})
- sL = silt loading (3 grams per meter squared (g/m^2), based on worst-case silt loading for low average daily traffic (< 5,000 vehicles per day))
- W = weighted average for vehicles traveling plant roadway (17.2 tons, based on seventeen 80,000 pound trucks/day; twenty 4,000 pound cars/day; and six 6,000 pound small commercial vehicles/day)

$E_{PM} = 0.082 (3 / 2)^{0.65} * (17.2 / 3)^{1.5} = 1.465$ lb PM / VMT

$E_{PM10} = 0.016 (3 / 2)^{0.65} * (17.2 / 3)^{1.5} = 0.286$ lb PM_{10} / VMT

$PTE_{PM} = E_{PM} * VMT_{day} * 365$ days/yr * 1 ton/2000 lb

$= (1.465) * (9.77) * (365) * (2000) = 2.61$ tons PM / year

$PTE_{PM10} = E_{PM10} * VMT_{day} * 365$ days/yr * 1 ton/2000 lb
= (0.286) * (9.77) * (365) * (2000) = 0.51 tons PM_{10} / year

Based on the potential to emit PM and PM_{10} computations provided by the source, even under the assumption that total PM is equal to PM_{10} (i.e., 2.61 tons PM and PM_{10} per year), the 326 IAC 6-1-11.1 listed activity of paved vehicle road travel does not exceed the rule applicability threshold level of 5 tons per year of fugitive emissions of PM or PM_{10}. Since this source does not contain other regulated facilities and operations, the requirements of 326 IAC 6-1-11.1 shall not apply and Condition C.6 shall be deleted as shown below. Further, this insignificant activity, listed as Condition A.3(d) in the draft permit, is removed from the final permit without replication herein.

~~C.6 Fugitive Dust Emissions [326 IAC 6-1-11.1]~~

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

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

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

~~(c) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).~~

~~(d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.~~

~~(e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.~~

~~(f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.~~

~~(g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).~~

~~(h) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.~~

~~(i) The PM_{10} emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.~~

~~(j) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).~~

~~(k) Any facility or operation not specified in 326 IAC 6-1-11.1(d) shall meet a twenty percent (20%), three (3) minute average opacity standard.~~

~~The Permittee shall achieve these limits by controlling fugitive particulate matter emissions~~

~~according to the Fugitive Dust Control Plan, submitted on June 29, 1999.~~

Comment 8:

Page 26 of 51 - Section C.10:

Please add the following sentence to the end of Section C.10 - **The Permittee retains the right to seek administrative or judicial review of any IDEM action to invoke the provisions of this section, or 326 IAC 2-1.1-11.**

Response to 8:

A goal of Section C is to set out the compliance requirements that are applicable to the entire source, so that the language does not need to be repeated in each applicable Section D condition. Condition C.10 (Compliance Requirements) (now renumber as C.9) refers to IDEM, OAQ's general compliance authority, as stated at 326 IAC 2-1.1-11, and language in the condition corresponds to that found in the rule cite. Since the rule does not affect nor pertain to a Permittee's rights under applicable laws and regulations, the addition of such language would be inappropriate. Condition C.10 (now C.9) remains unchanged based on this comment.

Comment 9:

Page 33 of 51 - Section D.1.1:

The first paragraph references 326 IAC 6-2-1 (c). We believe that it should be 6-2-1 (d). Regulation (c) applies to heat exchangers constructed prior to 1983, and (d) to those constructed afterward. Our boiler was constructed in 1999.

Response 9:

The first paragraph of Condition D.1.1 shall be changed to correct the reference to 326 IAC 6-2-1(d). All other aspects of the condition, including the allowable emission rate, are correct and unaffected by this typographical change.

D.1.1 Particulate Matter (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating: Emission Limitations for Facilities Specified in 326 IAC 6-2-1 (~~e~~ **d**)), the PM emissions from the 38.8 MMBtu per hour heat input Boiler No. 3, identified as A7, shall be limited to 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)

Comments 10 and 11:

Page 34 of 51 - Section D.1.2 (a) and (c):

(Comment 10):

Section (a) states a 12-month limit of 5.45 million scf of CO from Reformers Nos. 1, 2 and 3 (total), which corresponds to the 196.1 tons annual limit in Section (c). These limits should be changed to **5.61 million scf** and **201.9 tons**.

The new limits are as stated in Item 1 of IDEM's May 30, 2000 letter from Paul Dubenetzky to Praxair's Michael Lutz, and also on Form GSD-07 of our June 1999 Title V application. The purpose of IDEM's 5/30/00 letter was to approve our administrative amendments to our construction permit CP 089-10413.

(Comment 11):

Construction Permit CP-089-10413-00435 was issued on June 2, 1999 by IDEM. The construction permit established federally enforceable limits on the emissions of carbon monoxide from Boiler #3, Reformer #1, Reformer #2, Reformer #3, and the Carbon Dioxide Plant. The draft Part 70 permit and IDEM's Addendum to the Technical Support Document for the draft permit include *different* carbon monoxide emission limits for the equipment listed in Construction Permit CP-089-10413-00435, even though there has been no change of equipment, method of operation, or of the federally enforceable permit on which those limits were based. In the Technical Support Document, IDEM indicated that emission limits different from those that were established in the federally enforceable construction permit have been used in the Part 70 permit because the latest in the numerous updates of the AP-42 emission factors for natural gas combustion include a different emission factor for carbon monoxide.

It is Praxair's understanding that once an emission limit is established in an air permit, the subject facility must comply with that limit regardless of any changes in emission factors or calculation techniques. The federally enforceable construction permit did not include any reference to AP-42, or state that the emission limits were variables that would change as alternative emission factors were published or developed.

Term B.13 (b) of the draft Part 70 permit states that the Part 70 permit (when issued) supercedes all previously issued operating permits. However, it does not state that construction permits are superceded by the Part 70 permit. It is Praxair's understanding that emission limits and other specific requirements from federally enforceable construction permits are considered "applicable requirements" that must be incorporated into the Part 70 permit.

Praxair again requests that the draft Part 70 permit be revised to include the federally enforceable emission limits on carbon monoxide emissions that were established in Construction Permit CP-089-10413-00435 and the Amendment to CP-089-10413-00435 issued on May 30, 2000.

Response to 10 and 11:

On March 10, 2000, Praxair, Inc. submitted a request to IDEM, OAQ, to administratively amend Construction Permit CP-089-10413-00435, issued June 2, 1999. The request sought to correctly describe the units of measure on established numeric limits; revise descriptive information; and delete a requirement erroneously included in the construction permit. Administrative amendment 089-12018-00436 was issued on May 30, 2000, approving these requested changes.

Upon its approval, Operation Condition 8 of CP-089-10413-00435 established a source-wide carbon monoxide (CO) emission rate limit of less than 250 tons per year (tpy) such that the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) would not apply to the source. Compliance with this limit is determined through a CO production limit established for Reformers 1, 2 and 3 that is equivalent to a CO emission rate limit applicable to the three (3) facilities. The CO emission limit for the three Reformers is derived by computing the total potential to emit CO from all other facilities at the source, and then subtracting this total from 250 tons per year. The remainder is the emission rate limit (converted to an equivalent CO production limit) applied to Reformer Nos. 1, 2 and 3 (i.e., 201.9 tons per year, as 5.61 million standard cubic feet (scf) of CO produced, per Condition 8 of CP-089-10413-00435).

Two facilities at the source whose CO emission rates have been deducted from the 250 tpy source-wide limit are Boiler Nos. 1 and 2. CO emissions from these two boilers have been included in Condition 8 of CP-089-10413-0043, as existing facility emissions. These emissions, however, are based on factors taken from a version of EPA's AP-42 document that pre-dates the most recent edition of the document. The OAQ relies on the most currently available emissions data, including the most recent version of AP-42, in its Part 70 approval process (see page 2 of 10, Appendix A to the Technical Support Document, for AP-42 version reference). While this does not alter the source-wide CO limit of 250 tpy, the consequent utilization of more current emissions data has increased the potential to emit CO from Boilers 1 and 2. In turn, the previously available 201.9 tpy for Reformers 1, 2 and 3 has been reduced to 196.1 tpy (i.e., reduced to an equivalent of 5.46 million scf CO produced), such that the requirements of 326 IAC 2-2 continue to not apply to the source.

In general, the provisions of 326 IAC 2-7-5 require the permit to contain emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements. Condition D.1.2 is an applicable requirement of the permit, and the source would be unable to assure compliance with the limits of the condition without the stated change. As such, and since the Permittee has confirmed they want to maintain the source-wide CO emission limit at less than 250 tons per year, no change is made to Condition D.1.2 based on this comment. This change to Condition D.1.2 was noticed during the 30-day comment period, as contained in the Technical Support Document, pages 3 through 5 of 20.

Comment 12:

Page 34 of 51 - Section D.1.3:

The **8.36** numerical coefficient of the "BB" term in Equation (1) has been temporarily adjusted to be that high because of the initial performance test results of the Reformer No. 3 catalyst. It had originally been 5.44. The adjustment accounts for the increased NO_x emission until the catalyst problem is resolved.

Modifications to the catalyst system have been made, and a re-test is scheduled for late April of this year. We expect lower NO_x emissions, and will request an administrative change to this permit to reflect the improvement that is documented during the April re-test.

(Note: As a post-script to this comment, Praxair indicated on June 1, 2001 that they performed the above referenced re-test on April 26, 2001. The results of the re-test showed that the modifications made to the SCR system did not result in lower NO_x emissions, as expected. Instead, the system demonstrated a NO_x removal efficiency of about 74%. This is down from both the original vendor guarantee of 85%, upon which the original Equation (1) "BB" term coefficient of 5.44 was based, and the July 21, 2000 tested efficiency of about 77%, upon which the draft permit Equation (1) "BB" term coefficient of 8.36 is based. Praxair continues to work with the system manufacturer to determine the cause of the reduced system performance, and will re-test once the system problem is identified and corrected. The OAQ, Compliance Branch, Compliance Data Section, is aware of the April re-test and the current status of the SCR NO_x control system on Reformer No. 3, and will continue to monitor the progress of Praxair's investigation into the system's reduced performance. The source continues to comply with the requirements of its existing permits, including the NO_x limit of Condition D.1.3 of draft Part 70 permit T089-11102-00435 (as originally required in Construction Permit CP089-10413-00435, issued June 2, 1999), using the lower SCR system NO_x removal from the April 26, 2001 test results as discussed in the response below.)

Response to 12:

Condition D.1.3 is revised at the "BB" term of Equations (1) and (2). The revision reflects the most recently tested NO_x removal efficiency of 74% for the Reformer No.3 SCR control system, based on the April 26, 2001 test results. The corresponding quarterly reporting form is likewise revised without replication herein. Should any future modification to the SCR system result in greater NO_x removal from the exhaust gas stream, as shown through performance testing, the source can request OAQ approval to update the "BB" term to reflect the improved efficiency, as per Condition D.1.3 (c).

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

Pursuant to CP 089-10413-00435, issued June 2, 1999, 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 ninety-five 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 1,972 million standard cubic feet (MMscf) per 12 consecutive month period using Equation (2). The algebraic formulae follow:

Equation (1):
32.4 AA + ~~8.36~~ **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)
~~8.36~~ **9.42** = Reformer No. 3 emission factor (lb NO_x / MMscf)
25 = Boiler No. 3 emission factor (lb NO_x / MMscf)

Equation (2):
AA + ~~0.260~~ **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 1.0 ton per year by limiting the operating hours of the respective 100 kW and ~~350~~ **320** kW emergency generators to 100 hours per 12 consecutive month period each.

These limitations are equivalent to a NO_x emissions increase of less than 25 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.

Comment 13:

Page 35 of 51 - Section D.1.4:

This section imposes an ammonia limit in the Reformer No. 3 combustion emissions slipstream of 10 ppmvd. We request that the ammonia limit be increased to **20 ppmvd**. A 20 ppmvd limit is more than adequate for (1) protecting human health, and (2) regulating the operation of our NO_x catalyst.

Modeling a 20 ppmvd ammonia concentration in our Reformer No. 3 stack (using SCREEN3 model) shows a maximum 1-hour ground-level ammonia concentration of **less than 0.004 ppm**. By comparison, NIOSH and ACGIH have set a 25 ppm workplace ammonia limit (40 hours/week). Dividing the 25 ppm by a factor of 100 for applicability to residents (even thought there are none nearby) results in a target limit of **0.25 ppm.** This is still **60 times** the SCREEN3 impact of less than **0.004 ppm** based on our proposed **20** ppmvd ammonia limit.

Response to 13:

Reformer No. 3 utilizes a selective catalytic reduction (SCR) post-combustion NO_x control system. In the presence of a catalyst, the system utilizes ammonia (NH_3) to react with, and reduce, a portion of the total NO_x that is present in the post-combustion exhaust gas stream. In the case of this permit, the SCR system is used in combination with production limits stated in Condition D.1.3 to limit total NO_x emissions from affected equipment such that the requirements of 326 IAC 2-3 (Emission Offset) do not apply to the source.

Along with performance testing requirements, the SCR system is continuously and parametrically monitored to ensure that the necessary minimum ammonia injection rate is achieved and compliance with the limits of Condition D.1.3 is demonstrated. While no upper limit on ammonia injection is required to achieve the requisite NO_x removal efficiency, OAQ has specified an allowable ammonia (NH_3) concentration in the SCR system's exhaust gas stream (i.e., 10 parts per million of NH_3 per volume of exhaust gas, on a dry basis, 10 ppmvd). This limit is based on, and consistent with, recently approved OAQ best available control technology (BACT) determinations for SCR systems used to control NO_x emissions from new gas turbines. The limit is reflective of proper control system operation, while minimizing the potential for adverse environmental impacts, particularly human health effects from air-borne releases of unreacted ammonia.

Praxair has performed a conservative air quality dispersion modeling analysis to predict maximum NH_3 concentrations at offsite ground-level locations surrounding the source. The analysis has been performed using the U.S. EPA SCREEN3 dispersion model. The results of the analysis indicate the maximum 8-hour average predicted NH_3 concentration to be 0.028 ppm, based on a maximum 1-hour prediction of 0.04 ppm adjusted to an 8-hour averaging time using an OAQ approved time-conversion factor of 0.7. This concentration represents roughly 0.02% of the Permissible Exposure Level (PEL) established by the National Institute for Occupational Safety and Health (NIOSH). The PEL is designed to protect the health of workers in the workplace and is not a standard designed to protect public health. The U.S. EPA has not established such a standard (National Ambient Air Quality Standard, NAAQS) for ammonia. However, comparison to the PEL indicates that a 20 ppm concentration level will not have a significant impact on air quality. Since ammonia emissions are not specifically regulated under state or federal law, the requested change will not affect the requirements for NO_x controls, and a 20 ppm exhaust concentration will not adversely impact air quality, Condition D.1.4 is revised as follows:

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 ~~ten (10)~~ **twenty (20)** parts per million by volume, dry (ppmvd) at fifteen percent (15%) oxygen.

Comment 14:

Page 36 of 51 - Section D.1.6 (b) (1):

Delete Items (A) and (B) and replace with **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 and 3; 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."**

Measuring the gaseous volumetric flow rates and the vented CO during startups, both as specified in the draft Sections (b)(1)(A) and (b)(1)(B), is impractical and, in our opinion, unnecessary and unsafe.

1. It is impractical because startups occur after shutdowns caused by process or mechanical malfunctions.
   - There is insufficient time to arrange a stack test when a shutdown happens because, for economic reasons, the restart must occur within a few hours.
   - And we could not deliberately schedule a shutdown and startup solely for testing purposes, because of the high cost of downtime if we do not feed the hydrogen pipeline to our customers, and the cost of several hours of natural gas feedstock that would be wasted during a restart.
2. It is unnecessary because the vented flow is presently measured more accurately than would be measured during the test that IDEM requested.
   - The vented flow during startups is actually measured by an orifice plate within the closed process piping located some distance upstream of the vent valve.
   - This is a change from our previous communications with IDEM stating that we would be measuring the amount of vent valve opening and calculating the flow from the valve curve and upstream pressure data, and it produces a more accurate result.
   - At IDEM's request, we can provide a detailed technical description of our instrumentation and method for measuring the startup venting flow rates. This system has been in place on all three plants for over a year, and it computes the vented CO from each plant on a daily basis.
3. It is unsafe because the vents to be measured contain high concentrations of carbon monoxide, which is unsafe to breathe, and hydrogen, which is flammable. The testing personnel would have to be stationed next to testing ports, from which those gases would escape.

We believe that IDEM's need to confirm the accuracy of our CO venting measurements is adequately addressed by the above changes to this Section that we have proposed.

- We have been measuring the vented flow rates accurately, and are willing to discuss our method in detail with IDEM.
- We are measuring the percent CO in the vented streams via the testing specified in our proposed change, above. This is a repeat of measurements that we have already done in compliance with Operation Condition 7(a)(2) of our Construction Permit CP-089-10413-00435 dated 6/2/99.
- The combination of flow measurement, CO percentage, and duration of venting results in an accurate determination of CO emissions during startup.

Response to 14:

It is not the intent of the OAQ to require a source to conduct unnecessary testing, particularly testing that provides duplicative results. Since the source's request preserves the requirement to accurately assess the performance of the CO measurement system, albeit upstream of the exhaust port; does not affect the required frequency of performance testing; is consistent with prior OAQ approval pursuant to CP-089-10413-00435, issued June 2, 1999; and eliminates duplicative testing, Condition D.1.6(b)(1) is revised as follows:

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(b) During the period between 42 and 48 months after issuance of this permit, in order to demonstrate compliance with Condition D.1.2, the Permittee shall perform testing which shall be conducted in accordance with Section C - Performance Testing, as follows:

(1) Carbon monoxide (CO):
The Permittee shall perform carbon monoxide (CO) testing utilizing methods as approved by the Commissioner, to determine~~:~~

~~(A) The gaseous volumetric flow rate (standard cubic feet per minute), as a function of vent valve opening, for each process vent connected to, and exhausting at, stacks S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively; and~~

~~(B)~~ **the** CO **composition** in the gas upstream of the PSA units of Plant Nos. 1, 2 and 3; **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~~; and the vented CO (pounds per hour) at S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively~~.

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

Comment 15:

Page 36 of 51 - Section D.1.6 (b):

Under Items (1) and (2) of this section, please delete both of the two identical sentences, "**Testing shall be repeated at least ...**". This permit requires testing at the 42-48 month point. Any future testing will be specified in the permit renewal. The present permit cannot require actions that would occur after its expiration.

Response to 15:

Condition D.1.6 specifies the compliance testing requirements for the source, including the requirement at D.1.6(b)(1), (2) and (3)(A) that repeat testing be conducted once every five years from the date of the first compliance test. IDEM, OAQ recognizes that the permit term is five (5) years, with the date of expiration stated on the cover page of the permit. Based on Condition B.17 and 326 IAC 2-7-4, the source must submit a timely and complete renewal application at least nine (9) months prior to the date of expiration of the source's existing permit. If IDEM, OAQ, receives a complete permit application but fails to issue or deny the permit renewal prior to the expiration date of the existing permit, the existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. As such, stating the frequency of repeat testing in the permit ensures that a compliance test will not be missed in the event of a delay in permit renewal issuance. No change is made to Condition D.1.6 based on this comment. However, Condition D.1.6(b) is revised to reflect the changes made at Response to Comment 14, and the test schedule is updated to account for the time-lapse between the expiration of the draft permit public notice (i.e., March 27, 2001) and the year-2002 final permit issuance date, as follows:

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(b) ~~During the period between 42 and 48 months after issuance of this permit~~, ~~in order to demonstrate compliance with Condition D.1.2,~~ 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~~:~~

~~(A) The gaseous volumetric flow rate (standard cubic feet per minute), as a function of vent valve opening, for each process vent connected to, and exhausting at, stacks S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively; and~~

~~(B)~~ **the** CO **composition** in the gas upstream of the PSA units of Plant Nos. 1, 2 and 3; **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~~; and the vented CO (pounds per hour) at S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively~~.

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 ~~at least once every five years from the date of this valid compliance demonstration~~ 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 (EF); and

(v) average percent (%) oxygen (O_2) 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.

Comment 16:

Pages 41 and 42 of 51 - Section D.2:

Please delete Section D.2 in its entirety. Section D.2 as written imposes emission limits on insignificant sources, whereas it is not appropriate for IDEM to impose substantive requirements on insignificant sources. And because there are no associated compliance monitoring or determination requirements, there is no way to certify compliance.

Response to 16:

326 IAC 2-7-5 (Permit Content) requires that all applicable requirements be listed in the Title V operating permit. Therefore, any insignificant activity that has applicable state or federal requirements must be included in the Part 70 Operating Permit. The insignificant activities listed in Section A.3 of the permit are only those that are specifically regulated by state or federal rules, with the appropriate rule citations provided. In addition to simply citing the relevant rules, 326 IAC 2-7-5(1) requires that the permit contain all emission limitations and standards thereby necessitating inclusion of Section D.2. Therefore, Section D.2 remains unchanged based on this comment.

Upon further review, and in addition to the Comments/Responses presented above, the OAQ has decided to make the following changes to the Part 70 Operating Permit (again, changes in bold and strikeout for emphasis):

Section A:

1. Condition A.2 (a), (b), (c) and (d) (Emission Units and Pollution Control Equipment Summary) and Section D.1 (Facility Description); and Condition A.3 (b) (Specifically Regulated Insignificant Activities) and Section D.2, are revised to provide greater descriptive clarity. Conditions A.2 and A.3 are revised as follows, with the same changes made to Sections D.1 and D.2 without replication below:

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 as~~ 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 as~~ 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 as~~ Reformer No. 3, identified as A11 and installed in 1999, equipped with a low NOx burner and selective catalytic reduction (SCR) for NOx pollution control, 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 and A11, with a process design rate of 154,000 **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 5,065 SCFH and containing no more than 1.52 percent (%) by volume of carbon monoxide (CO). When the carbon dioxide purification system is not operating, the feed gas generated from reformers A3, A8 and A11 will exhaust through one (1) stack identified as S/V 009, at maximum design flow rate of 154,000 SCFH and containing no more than 0.052% by volume of CO.

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):

(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 **No.** 1, identified as A1 and installed in 1978, rated at 5.3 MMBtu per hour, and exhausting at one (1) stack identified as SV001.
[326 IAC 6-2-2]

(2) One (1) natural gas fired Boiler **No.** 2, identified as A2 and installed in 1978, rated at 5.3 MMBtu per hour, and exhausting at one (1) stack identified as SV002.
[326 IAC 6-2-2]

Section B:

2. Condition B.2 (Permit Term) is revised to include a new rule cite added to 326 IAC Article 2, as approved by the Air Pollution Control Board on October 3, 2001, and effective on January 19, 2002:

B.2 Permit Term [326 IAC 2-7-5(2)] **[326 IAC 2-1.1-9.5]**

This permit is issued for a fixed term of five (5) years from the original date, 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.

3. Condition B.7(c) (Duty to Supplement and Provide Information) is revised to change a rule reference. Subpart (c) references 326 IAC 17. This rule was repealed by the Air Pollution Control Board on January 26, 2000. The new rule reference has been added as follows:

B.7 Duty to Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)] [326 IAC 2-7-6(6)]

(c) 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.

4. Condition B.8 (Compliance with Permit Conditions) is revised to clarify that noncompliance with any requirement of this permit may result in an enforcement action against the Permittee, an action to modify, revoke, reissue or terminate the source's permit, and/or a denial of the Permittee's application to renew the permit. In addition, except for those permit conditions that are not federally enforceable, noncompliance is also a violation of the federal Clean Air Act.

B.8 Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provision of this permit ~~except those specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act and~~ is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; or

(3) Denial of a permit renewal application.

(b) **Noncompliance with any provisions of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act.**

~~(b)~~**(c)** 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.

(d) An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in ~~condition~~ **Section** B, Emergency Provisions.

5. Condition B.12(b)(4) (Emergency Provisions) is revised to update the telephone number for the IDEM Northwest Indiana Regional Office. The condition is also revised at paragraphs (a), (b) and (g) to reflect rule changes to 326 IAC 2-7-16, as approved by the Air Pollution Control Board on October 3, 2001 and effective on January 19, 2002.

B.12 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~~, except as provided in 326 IAC 2-7-16.~~

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a ~~health-based or~~ 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:

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and the IDEM Northwest Indiana 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: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967
Telephone No.: 219-881-~~6725~~ **6712** (IDEM Northwest Indiana Regional Office)
Facsimile No.: 219-881-6745 (IDEM Northwest Indiana Regional Office)

(g) ~~Operations may continue during an emergency only if the following conditions are met:~~

~~(1)~~ 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.

~~(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:~~

~~(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and~~

~~(B) Continued operation of the facilities is 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.~~

~~Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.~~

6. Condition B.13(a) (Permit Shield) is revised to add a word for clarification. The condition is also revised to remove paragraph (b) which is redundant due to the insertion of new Condition B.14 (see No. 8 below), and the remaining paragraphs are re-numbered accordingly without replication herein.

B.13 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 **in** 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) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits. All previously issued operating permits are superseded by this permit.~~

7. Condition B.14 (Multiple Exceedances) is deleted since 326 IAC 2-7-5(1)(E) has been repealed, as approved by the Air Pollution Control Board on October 3, 2001 and effective on January 19, 2002.

~~B.14 Multiple Exceedances [326 IAC 2-7-5(1)(E)]~~

~~Any exceedance of a permit limitation or condition contained in this permit, which occurs contemporaneously with an exceedance of an associated surrogate or operating parameter established to detect or assure compliance with that limit or condition, both arising out of the same act or occurrence, shall constitute a single potential violation of this permit.~~

8. New Condition B.14 is added to the permit to help clarify the intent of the new rule 326 IAC 2-1.1-9.5, as approved by the Air Pollution Control Board on October 3, 2001 and effective on January 19, 2002:

B.14 Prior Permit Conditions Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either

(1) incorporated as originally stated,

(2) revised, or

(3) deleted

by this permit.

(b) All previous registrations and permits are superseded by this permit.

9. Condition B.15 (Deviations from Permit Requirements and Conditions) is revised to be consistent with the rule by deleting what does not constitute a deviation, and clarifying the reporting requirements as follows:

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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. ~~Deviations that are required to be reported by an applicable requirement~~ **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 ~~do~~ **does** not need to be included in this report.

The ~~notification by the Permittee~~ **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 ~~or a rule. It does not include:~~

~~(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or~~

~~(2) Failure to implement elements of the Preventive Maintenance Plan unless such failure has caused or contributed to a deviation.~~

~~A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation~~.

(c) Emergencies shall be included in the Quarterly Deviation and Compliance Monitoring Report.

10. Condition B.18 (b) (Permit Amendment or Modification) is changed to replace "should" with "shall" in subpart (b).

B.18 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(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 Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application ~~should~~ **shall** be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

11. Condition B.20(b) (Operational Flexibility) is changed to clarify the reason a certification is not required.

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

(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 ~~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).

12. Condition B.24(a) (Annual Fee Payment) is changed to add “to” in subpart (a) as follows:

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(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.

Section C

13. Condition C.7 (Asbestos Abatement Projects) is revised at paragraph (d) to be consistent with 40 CFR 61, Subpart M, which requires that the requisite notification for affected sources must be signed by either the source owner or operator. Also, paragraph (f) is revised to clarify the enforceability of accreditation. 326 IAC 14-10 (Emission Standards for Asbestos) was not submitted as a State Implementation Plant (SIP) and was not approved. Therefore, the requirement that an inspector be “Indiana” accredited cannot be federally enforceable. However, the requirement that the inspector be accredited is a provision of 40 CFR 61, Subpart M. Therefore, paragraph (f) is revised to clarify what is federally enforceable. The condition at paragraphs (d) and (f) is revised as follows:

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 17] [40 CFR 61, Subpart M]

(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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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).

(f) 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 that the inspector be accredited**, pursuant to the provisions of 40 CFR 61, Subpart M,** is federally enforceable.

14. Condition C.15(c) (Risk Management Plan) is changed to clarify when IDEM, OAQ received a RMP from the source, and remove the requirement of verification from the source that they submitted a RMP and when it was submitted. A submittal date is not required by the provisions of 40 CFR 68. Therefore, the condition has been reworded as follows:

C.15 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]

(c) A **Risk Management Plan was prepared as required by 40 CFR 68 and submitted to IDEM, OAQ** ~~verification to IDEM, OAQ, that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68~~ on June 18, 1999.

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

15. The IDEM, OAQ has restructured C.16 to clarify the contents and implementation of the compliance response plan. The name of the condition has been changed to better reflect the contents of the condition. The language regarding the OAQ's discretion to excuse failure to perform monitoring under certain conditions has been deleted. The OAQ retains this discretion to excuse minor incidents of missing data; however, it is not necessary to state criteria regarding the exercise of that discretion in the permit. In (c)(2) "administrative amendment" has been revised to "minor permit modification," because 326 IAC 2-7-11(a)(7) has been repealed. Requests that do not involve significant changes to monitoring, reporting, or recordkeeping requirements may now be approved as minor permit modifications. The condition is revised as follows:

C.16 Compliance ~~Monitoring~~ **Response** Plan - ~~Failure to Take Response Steps~~ **Preparation, Implementation, Records, and Reports** [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to **prepare** ~~implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. The compliance monitoring plan can be either an entirely new document, consist in whole of information contained in other documents, or consist of a combination of new information and information contained in other documents. If the compliance monitoring plan incorporates by reference information contained in other documents, the Permittee shall identify as part of the compliance monitoring plan the documents in which the information is found. The elements of the compliance monitoring plan are:~~

~~(1) This condition;~~

~~(2) The Compliance Determination Requirements in Section D of this permit;~~

~~(3) The Compliance Monitoring Requirements in Section D of this permit;~~

~~(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and~~

~~(5)~~ ~~A~~ **a** Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. **A** CRP~~'s~~ shall be submitted to IDEM, OAQ, upon request ~~and shall be subject to review and approval by IDEM, OAQ~~. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee**, supplemented from time to time by the Permittee,** ~~and~~ maintained on site, and ~~is~~ comprised of:

~~(A)~~**(1)** Reasonable response steps that may be implemented in the event that ~~compliance related information indicates that~~ a response step is needed pursuant to the requirements of Section D of this permit; and **an expected timeframe for taking reasonable response steps.**

~~(B) A time schedule for taking reasonable response steps including a schedule for devising additional response steps for situations that may not have been predicted.~~

(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition **as follows:** ~~Failure to take reasonable response steps may constitute a violation of the permit.~~

(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or

(2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.

(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.

(4) Failure to take reasonable response steps shall constitute a violation of the permit.

(c) ~~Upon investigation of a compliance monitoring excursion, the~~ **The** Permittee is ~~excused from taking~~ **not required to take any** further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment **and** ~~This shall be an excuse from taking further response steps providing that~~ prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for ~~an administrative amendment~~ **a minor permit modification** to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.

~~(d)~~**(e)** ~~Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.~~ **The Permittee shall record all instances when response steps are taken.** In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

~~(e)~~**(f)** **Except as otherwise provided by a rule or provided specifically in Section D,** all monitoring **as** required in Section D shall be performed ~~at all times~~ **when** the ~~equipment~~ **emission unit** is operating, **except for time necessary to perform quality assurance and maintenance activities.** ~~If monitoring is required by Section D and the equipment is not operating, then the Permittee may record the fact that the equipment is not operating or perform the required monitoring.~~

~~(f) At its discretion, IDEM may excuse the Permittee's failure to perform the monitoring and record keeping as required by Section D, if the Permittee provides adequate justification and documents that such failures do not exceed five percent (5%) of the operating time in any quarter. Temporary, unscheduled unavailability of qualified staff shall be considered a valid reason for failure to perform the monitoring or record keeping requirements in Section D.~~

16. Condition C.17 (Actions Related to Noncompliance Demonstrated by a Stack Test) is revised to indicate that the requisite notification for affected sources be certified by the responsible official as follows:

C.17 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 and 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 documents submitted pursuant to this condition do ~~not~~ require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

17. Condition C.20(d) (General Reporting Requirements) is changed to indicate the condition applies to all forms instead of the quarterly reports.

C.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

(d) Unless otherwise specified in this permit, ~~any quarterly~~ **all** report**s** required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. ~~The~~ **All** reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Section D:

18. Condition D.1.2(b) (PSD Minor Limit) is revised to remove the term "periodically" due to potential uncertainty regarding this term. A reference to Condition D.1.6 has been added for specific testing requirements, including testing frequency, to provide greater clarity.

D.1.2 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to CP 089-10413-00435, issued June 2, 1999, the source shall comply as follows:

(b) Instrumentation that continuously computes the amount of CO vented at each process vent connected to stacks S/V 006, 010 and 012, as a function of the duration and amount of vent valve opening, shall be permanently installed on Reformer Nos. 1, 2, and 3 and shall be ~~periodically~~ tested **in accordance with Condition D.1.6(b)**.

19. Condition D.1.7(b) (Selective Catalytic Reduction System) is revised for descriptive consistency with other conditions of the permit.

D.1.7 Selective Catalytic Reduction (SCR) System

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

(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) = $(a + b*O_2 + c*T) * ORF$

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
T = SCR **system** downstream temperature, EF
a,b,c = algebraic constants, determined by testing

The coefficients in Equation (6) shall be established pursuant to Condition D.1.6(a). Upon completion of initial performance testing, the Permittee shall submit a request to IDEM, OAQ to amend this permit condition to establish a final Equation (6). If other coefficients are relied upon after initial testing, the Permittee shall submit a request to IDEM, OAQ to amend this permit before utilization of the coefficients.

20. Condition D.1.9 (Parametric Monitoring), paragraph (b) is revised for descriptive consistency with other conditions of the permit. Also, in relation to the changes previously discussed for Condition B.15 (see Item No. 6), paragraph (c) is revised to clarify the events that do not qualify as a deviation.

D.1.9 Parametric Monitoring

(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 ~~unit~~ **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 ammonia injection rate shall not be less than the minimum 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 -** ~~The~~ Compliance Response Plan **- Failure to Take Response Steps** for these units ~~shall contain troubleshooting contingency and response steps for~~ when ~~a reading~~ **the ammonia injection rate** is outside the above mentioned range for any one reading. **An 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 ~~Monitoring~~ **Response** Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

21. Condition D.1.10(a) (Record Keeping Requirements) is changed to provide greater clarity. Also, two separate paragraphs were inadvertently labeled as paragraph (b). Without replication below, the second paragraph (b), and paragraphs (c) and (d) were respectively re-labeled to paragraphs (c), (d) and (e).

D.1.10 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 month**s** ~~period~~ and be made available upon request to the Office of Air Quality (OAQ). [40 CFR Part 60.48c(i)]

22. Condition D.1.11 (Reporting Requirements) is changed to clarify the requirements associated with submission of the natural gas boiler certification form, and to clarify the form is to be submitted to IDEM, OAQ on a semi-annual basis. Revisions to the form are shown at the end of this document.

D.1.11 Reporting Requirements

The Permittee shall **submit the following**:

(a) ~~Submit~~ A quarterly summary of the information to document compliance with Conditions 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 ~~quarter~~ **period** being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

23. Section D.2 (Compliance Determination) is revised to add a statement that clarifies that no specific compliance testing requirements are applicable to the facilities covered under Section D.2.

Compliance Determination Requirement

There are no applicable compliance determination conditions**, including compliance testing,** for these facilities.

Forms

24. All forms have been revised to include the IDEM, OAQ, address, and to make the address consistent with the address references in Section B as follows:

~~**P.O. Box 6015**~~	**100 North Senate Avenue**
~~**100 North Senate Avenue**~~	**P.O. Box 6015**

25. Forms without a phone number line at the bottom of the form have been revised to include such. This includes the Natural Gas Fired Boiler Certification form located at the end of this document.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
~~and~~
~~IDEM NORTHWEST INDIANA OFFICE~~

PART 70 OPERATING PERMIT
SEMI-ANNUAL NATURAL GAS FIRED BOILER CERTIFICATION

Source Name: Praxair, Inc.
Source Address: ~~Foot of Standard Avenue, Whiting, Indiana 46394~~ **2551 Dickey Road, East Chicago, Indiana 46312**
Mailing Address: ~~Foot of Standard Avenue, Whiting, Indiana 46394~~ **P.O. Box 712, Whiting, Indiana 46394**
Part 70 Permit No.: T089-11102-00435

9 **Natural Gas Only**
9 **Alternate Fuel burned**
From:_____ To:_____

~~**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.**~~

~~Report period~~
~~Beginning: _____~~
~~Ending: _____~~

~~Boiler Affected~~	~~Alternate Fuel~~	~~Days burning alternate fuel~~ ~~From~~	~~To~~

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:

A certification by the responsible official as defined by 326 IAC 2-7-1(34) is required for this report.

Indiana Department of Environmental Management
Office of Air Quality
and
IDEM Northwest Indiana Office

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

Source Background and Description

Source Name:	Praxair, Inc.
Source Location:	Foot of Standard Avenue, Whiting, Indiana 46394
County:	Lake
Operation Permit No.:	T089-11102-00435
SIC Code:	2813
Permit Reviewer:	Michael Hirtler / EVP

The Office of Air Quality (OAQ) has reviewed a Part 70 permit application from Praxair, Inc. relating to the operation of an industrial gas manufacturing source which produces gaseous hydrogen and carbon dioxide (CO_2).

History

On June 13, 1997, Praxair, Inc. was issued Federally Enforceable State Operating Permit (FESOP) No. F089-5553-00435 for its Whiting, Indiana industrial gas manufacturing source. The FESOP limited source emissions of carbon monoxide (CO) to less than 100 tons per year (tpy) and, therefore, the Part 70 operating permit program requirements of 326 Indiana Air Code (IAC) 2-7 did not apply. On October 8, 1997, Praxair, Inc. was issued Construction Permit No. CP 089-8510-00435 to modify the source, and that permit was subsequently superseded by a second construction permit, CP 089-10413-00435, that was issued on June 2, 1999. Emissions attributable to the source modification resulted in source-wide CO emissions greater than 100 tpy and Praxair requested that the CO limit in the FESOP be increased above 100 tpy. As such, Condition 6e was included in CP 089-10413-00435 requiring Praxair to apply for a Part 70 operating permit. The OAQ received Praxair's Part 70 permit application as required on June 29, 1999. Upon its approval, Part 70 Permit T089-11102-00435 will replace FESOP F089-5553-00435.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) steam methane reformer as 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 as 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 as Reformer No. 3, identified as A11 and installed in 1999, equipped with a low NOx burner and selective catalytic reduction (SCR) for NOx pollution control, 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 and A11, with a process design rate of 154,000 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 5,065 SCFH and containing no more than 1.52 percent (%) by volume of carbon monoxide (CO). When the carbon dioxide purification system is not operating, the feed gas generated from reformers A3, A8 and A11 will exhaust through one (1) stack identified as S/V 009, at maximum design flow rate of 154,000 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 1999, rated at 38.8 MMBtu per hour, and exhausting at one (1) stack identified as S/V 007.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities 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.

(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.

(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 5.3 MMBtu per hour, and exhausting at one (1) stack identified as SV001.

(2) One (1) natural gas fired Boiler 2, identified as A2 and installed in 1978, rated at 5.3 MMBtu per hour, and exhausting at one (1) stack identified as SV002.

(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 T003, with storage capacities of 250 gallons, 55 gallons and 55 gallons, respectively.

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

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

(e) Cleaners and solvents characterized as follows:

(1) having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38EC (100EF) or;

(2) 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.

(f) Closed loop heating and cooling systems.

(g) 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.

(h) 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.

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

Existing Approvals

The source was issued a FESOP (F089-5553-00435) on June 13, 1997, which will be replaced by this Part 70 permit upon approval. The source has received the following since June 13, 1997:

(a) Construction Permit No.: CP 089-8510, issued on October 8, 1997; and

(b) Construction Permit No.: CP 089-10413, issued on June 2, 1999. *Upon its issuance on June 2, 1999, CP 089-10413 replaced and superseded Construction Permit CP 089-8510 in its entirety.*

The source applied for a FESOP on March 19, 1996. The source had been operating under previous approvals including, but not limited to, the following:

(a) Registration No.: R 089-00330, issued April 11, 1991.

All conditions from previous approvals were incorporated into this Part 70 permit. However, on March 10, 2000, the source submitted a request to the OAQ to correct inaccuracies in, and provide clarification to, conditions contained in Construction Permit CP 089-10413-00435, issued on June 2, 1999. The conditions are revised as follows (new language bolded and old language crossed-out), and are incorporated into Section D of the Part 70 permit:

(a) Operation Condition 8 is updated to correct the equivalent carbon monoxide (CO) gas rate; revise the emission limit to reflect current AP-42 emission factors for the contribution of the existing emission units to the total CO limit; eliminate Condition 8(b) which is an extraneous listing of uncontrolled potential emission rates from existing facilities; and clarify the means of demonstrating compliance with the stated CO limit:

PSD Minor Source Limit

Pursuant to CP 089-10413-00435, issued June 2, 1999, the source shall comply as follows:

(a) ~~That carbon monoxide (CO) production rate from process vent stacks of Reformers #1, 2, and 3 (S/V 006, 010, and 012) shall be limited to 134.9 million standard cubic feet per year (MMscf/yr), based on a 12 month rolling total. This is equivalent to the carbon monoxide emissions from the process vent stacks of Reformers #1, 2, and 3 (S/V 006, 010, and 012) to 201.9 tons per year. Instrumentation that continuously computes the vented CO, as a function of the duration and amount of vent valve opening, shall be permanently installed on Reformers #1, 2, and 3 and shall be tested.~~

The total carbon monoxide (CO) production rate from process vent stacks of Reformer Nos. 1, 2, and 3 (S/V 006, 010, and 012, respectively) shall be limited to 5.45 million standard cubic feet (MMscf) per twelve (12) consecutive month period, based on:

(1) CO density of 0.072 pounds per cubic foot of gas produced at standard conditions (i.e., 1 atmosphere of pressure and 70 degrees Fahrenheit temperature).

(2) CO concentrations established through performance testing pursuant to Condition D.1.6(b) for each process vent connected to, and exhausting at, stacks S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively. Process vent CO concentrations shall be adjusted as necessary based on the results of the most recently approved performance test.

~~(b) That carbon monoxide (CO) production rate from the existing facility shall be limited to the following:~~

~~(1) Boiler #3 shall be limited to an annual fuel limitation of 237.9 million cubic feet per year (MMcf/yr), based on a 12 month rolling total. This is equivalent to the carbon monoxide emissions from Boiler #3 to 3.30 tons per year;~~
~~(2) Reformer #1 shall be limited to 353.9 million cubic feet per year (MMcf/yr), based on a 12 month rolling total. This is equivalent to the carbon monoxide emissions from Reformer #1 to 2.48 tons per year;~~
~~(3) Reformer #2 shall be limited to 325.0 million cubic feet per year (MMcf/yr), based on a 12 month rolling total. This is equivalent to the carbon monoxide emissions from Reformer #1 to 2.27 tons per year;~~
~~(4) Reformer #3 shall be limited to 734.1 million cubic feet per year (MMcf/yr), based on a 12 month rolling total. This is equivalent to the carbon monoxide emissions from Reformer #1 to 5.14 tons per year; and~~
~~(5) Vent stack from CO_2 Plant shall be limited to 210 tons of carbon dioxide per year, based on a 12 month rolling total. This is equivalent to the carbon monoxide emissions from vent stack from CO_2 Plant to 32.21 tons per year.~~

(b) Instrumentation that continuously computes the amount of CO vented at each process vent connected to stacks S/V 006, 010 and 012, as a function of the duration and amount of vent valve opening, shall be permanently installed on Reformer Nos. 1, 2, and 3 and shall be periodically tested.

(c) This production limit is equivalent to limiting total CO emissions from the process vent stacks of Reformer Nos. 1, 2, and 3 (S/V 006, 010, and 012, respectively) to 196.1 tons per 12 consecutive month period. Compliance with this condition shall limit the source-wide potential to emit CO to less than 250 tons per 12 consecutive month period, including the potential to emit CO for other existing facilities. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

(b) Operation Condition 9 is updated to improve clarity in terms of the stated limit, and to correct inaccuracies associated with the equivalent fuel usage limit and its derivative. Additionally, Construction Permit CP 089-11102-00435, issued June 2, 1999, approved the installation of Reformer No. 3 with selective catalytic reduction (SCR) for NO_x control. Avoidance of the 326 IAC 2-3 (Emission Offset) rule was, in part, based on the degree of NO_X control achieved by the SCR, which is reflected in the emission factor for Reformer 3, as expressed in the formulae below. While Operation Condition 7 of the construction approval required the source to initially test for NO_x from Reformer No. 3, no compliance requirement, as relates to operation of the SCR unit, was included in the approval. As a result, a new condition relating to operation of the SCR is added to the Part 70 permit to ensure compliance with the NO_x limit of less than 25 tons per twelve (12) consecutive month period. Further, and pursuant to 326 IAC 2-1.1-5 (Air Quality Requirements), a new condition is added to limit excess ammonia emissions from the SCR unit. These conditions are as follows:

Emission Offset Minor Source Limit

Pursuant to CP 089-10413-00435, issued June 2, 1999, the source shall comply as follows:

(a) ~~That the fuel usage from Reformers #1, 2, 3, and Boiler #3 shall be limited to 1,972 pounds per 12-month period, rolled on a monthly basis, as follows:~~

~~AA + 0.168 BB + 0.772 NN # 1,972~~

~~where: AA = Reformers #1 and #2 annual fuel consumption in MMCF/yr~~
~~BB = Reformer #3 annual fuel consumption in MMCF/yr~~
~~NN = Boiler #3 annual fuel consumption in MMCF/yr~~

The total amount of NO_x emitted from Reformer Nos. 1, 2, 3, and Boiler No. 3, shall be limited to thirty-one and ninety-five 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 1,972 million standard cubic feet (MMscf) per 12 consecutive month period using Equation (2). The algebraic formulae follow:

Equation (1):
32.4 AA + 8.36 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)
8.36 = Reformer No. 3 emission factor (lb NO_x / MMscf)
25 = Boiler No. 3 emission factor (lb NO_x / MMscf)

Equation (2):
AA + 0.260 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) ~~To determine the natural gas plus tail gas fuel usage (Rd, in million cubic feet per year based on a 12- month rolling total), for Reformer Nos. 1, 2, and 3, the following formula shall be used:~~

~~Rd = 1.073 * Fd1 + 1.147 * Fd2 + 1.273 * Fd3~~

~~where: Fd1 is the feedstock flow (in million cubic feet per 12 month rolling total) to Reformer No. 1;~~
~~Fd2 is the feedstock flow (in million cubic feet per 12 month rolling total) to Reformer No. 2; and~~
~~Fd3 is the feedstock flow (in million cubic feet per 12 month rolling total) to Reformer No. 3~~

~~The three (3) constants in the formula (1.073, 1.147, and 1.273) shall be adjusted based on the performance test results, as required in Operation Condition No. 7.~~

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.

~~(c)~~**(d)** The two (2) emergency generators **A13 and A15** will limit **combined** NO_x emissions to 1.0 ton per year by limiting the operating hours of the **respective** 100 kW and 350 kW emergency generators to 100 hours per 12 consecutive month period **each**.

~~(d)~~ These ~~fuel usage~~ limitations ~~is~~ **are** equivalent to a NO_x emissions increase of less than 25 tons per ~~year~~ **twelve (12) consecutive month period** due to the ~~proposed~~ **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, ~~will~~ **do** not apply.

Ammonia Limitation

Pursuant to 326 IAC 2-1.1-5 (Air Quality Requirements), the concentration of ammonia at the Reformer No. 3 exhaust stack shall not exceed ten (10) parts per million by volume, dry (ppmvd) at fifteen percent (15%) oxygen.

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 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) = $(0.42 + 1.258*O_2) * ORF$

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

The coefficients in Equation (5) 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.

(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) = $(a + b*O_2 + c*T) * ORF$

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, expressed as a fraction of the reformer design firing rate

T = SCR downstream temperature, EF

a,b,c = algebraic constants, determined by testing

The coefficients in Equation (6) shall be established pursuant to Condition D.1.6(a). Upon completion of initial performance testing, the Permittee shall submit a request to IDEM, OAQ to amend this permit condition to establish a final Equation (6). If other coefficients are relied upon after initial testing, the Permittee shall submit a request to IDEM, OAQ to amend this permit before utilization of the coefficients.

(c) 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.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit application for the purposes of this review was received on June 29, 1999. Upon its approval, Part 70 permit T089-11102-00435 will replace FESOP F089-5553-00435, issued on June 13, 1997.

There was no notice of completeness letter mailed to the source for the Part 70 permit application.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (ten (10) pages). All emission calculations are taken directly from, or are modifications to, emission calculations found in the TSD to FESOP F089-5553-00435, issued on June 13, 1997, and the TSD to Construction Permit CP 089-10413-00435, issued on June 2, 1999.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	less than 100
PM-10	less than 100
SO_2	less than 100
VOC	less than 25
CO	greater than 250
NO_x	less than 100

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
hexane	less than 10
TOTAL	less than 25

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of carbon monoxide (CO) 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 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1998 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	5.2
PM-10	5.2
SO_2	0.2
VOC	1.2
CO	11.7
NO_x	24.2

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant and insignificant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 operating permit.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Emergency Generators A13 & A15 ***	0.1	0.1	0.1	0.1	0.2	1.0 **	0.0
Natural Gas Combustion in Boiler No. 3 & Process Gas Combustion in Reformer Nos. 1, 2 & 3	5.7	6.7	0.5	7.8	16.2	31.95 **	0.3
Reformer Nos. 1, 2 & 3 Process Vent Stacks S/V 006, 010 & 012	0.0	0.0	0.0	0.0	196.1 *	0.0	0.0
CO2 Plant Vent Stack	0.0	0.0	0.0	0.0	32.2	0.0	0.0
Boiler Nos. 1 & 2, Emergency Generator A4 & Emergency Firewater Pump ***	0.2	0.5	0.2	0.4	4.3	6.6	0.1
Total Emissions	6.0	7.2	0.8	8.3	249.0 *	39.6	0.4

* Based on Operating Condition 8 of Construction Permit CP089-10413-00435, issued June 2, 1999.
** Based on Operating Condition 9 of Construction Permit CP089-10413-00435, issued June 2, 1999.
*** Insignificant Activities.

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM-10	moderate nonattainment *
SO_2	nonattainment, primary standard *
NO_2	attainment or unclassifiable
Ozone	severe nonattainment
CO	maintenance
Lead	attainment or unclassifiable

* Only a portion of Lake County is nonattainment for this pollutant. The source is located in the nonattainment portion of the county.

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as severe nonattainment for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(b) A portion of Lake County has been classified as nonattainment for particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM-10) and sulfur dioxide (SO_2, primary standard only). The source is located in Whiting Township which is in the PM-10 and SO_2 nonattainment portions of Lake County. Therefore, source emissions of PM-10 and SO_2 were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(c) A portion of Lake County has been classified as maintenance for carbon monoxide (CO), and attainment or unclassifiable for the remainder of the county for CO and for the remaining criteria pollutants. Therefore, source emissions for the remaining criteria pollutants were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

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.

Federal Rule Applicability

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

The storage tanks identified as T001, T002, and T003, with respective storage capacities of 250 gallons, 55 gallons and 55 gallons, are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Parts 60.110, 110a - 115a or 110b - 117b, as Subparts K, Ka, and Kb, respectively) since the tank storage capacities are below the minimum applicable threshold to the three rules (i.e., 40 cubic meters (10,568 gallons)).

(b) 40 CFR Part 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units)

(1) Natural gas fired Boiler Nos. 1 and 2, respectively identified as A1 and A2, with individual maximum heat input rates of 5.3 million British thermal units (MMBtu) per hour, each constructed in 1978, are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.40c through 60.48c, Subpart Dc) because each facility was constructed prior to the rule applicability date of June 9, 1989 and the boiler capacities are each below the applicable rule threshold of 10 MMBtu per hour.

(2) Natural gas fired Boiler No. 3, identified as A7, with a maximum heat input rate of 38.8 million British thermal units (MMBtu) per hour, constructed in 1999, is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.40c through 60.48c, Subpart Dc) because the facility was constructed after the rule applicability date of June 9, 1989 and has a heat input rate greater than the ten (10) MMBtu per hour rule applicability threshold. Pursuant to 40 CFR Part 60.48c, the source shall:

(A) Maintain records of the amount of natural gas combusted for each month and maintain these records for at least the past 24 month period to be made available upon request to the Office of Air Quality (OAQ).

(B) Certify on the form provided that natural gas was fired in Boiler 3 at all times during the reporting period. The certification shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit within thirty (30) days after the end of the quarter being reported.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 61) applicable to this source.

(d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 20 and 40 CFR Part 63) applicable to this source. However, pursuant to the Clean Air Act of 1990, the United States Environmental Protection Agency (US EPA) has established the *Fuel Combustion* source category as requiring hazardous air pollutant control. The US EPA has established November 15, 2000 as the final rule promulgation date for HAP emissions control for this source category, which at present is expected to affect only major sources of HAPs. Since the source's PTE a single and combined HAPs are less than 10 tpy and 25 tpy, respectively, the source will not be a major source of HAPs. The source will evaluate applicability to the rule upon its promulgation and will comply if the rules are determined to apply.

State Rule Applicability - Entire Source

326 IAC 2-4.1-1 (New Source Toxics Control)

Pursuant to 326 IAC 2-4.1-1 (New Source Toxics Control), any new process or production unit, which in and of itself emits or has the PTE 10 tons per year of any HAP or 25 tons per year of the combination of HAPs, and is constructed or reconstructed after July 27, 1997, must be controlled using technologies consistent with Maximum Achievable Control Technology (MACT).

Construction permit CP089-10413-00435 was issued on June 2, 1999, which permitted the construction of new facilities after the July 27, 1997 rule applicability date. None of these facilities, however, have the PTE 10 tons per year of any HAP or 25 tons per year of the combination of HAPs. Therefore, the requirements of this rule do not apply to the source.

326 IAC 2-2 (Prevention of Significant Deterioration)

Pursuant to CP 089-10413-00435, issued June 2, 1999, the total carbon monoxide (CO) emission rate from process vent stacks of Reformer Nos. 1, 2, and 3 (S/V 006, 010, and 012, respectively) shall be limited to 196.1 tons per twelve (12) consecutive month period. Since this type of source is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, this limit is required to limit the source-wide potential to emit 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 this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

326 IAC 2-3 (Emission Offset)

Pursuant to CP 089-10413-00435, issued June 2, 1999, 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 ninety-five 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 1,972 million standard cubic feet (MMscf) per 12 consecutive month period using Equation (2). The algebraic formulae follow:

Equation (1):
32.4 AA + 8.36 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)
- 8.36 = Reformer No. 3 emission factor (lb NO_x / MMscf)
- 25 = Boiler No. 3 emission factor (lb NO_x / MMscf)

Equation (2):
AA + 0.260 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 1.0 ton per year by limiting the operating hours of the respective 100 kW and 350 kW emergency generators to 100 hours per 12 consecutive month period each.

These limitations are equivalent to a NO_x emissions increase of less than 25 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.

326 IAC 2-6 (Emission Reporting)

This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than ten (10) tons per year of NO_x in Lake County. This source also has the potential to emit more than one hundred (100) tons per year of CO. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must continue to be received by April 15 of each year and contain the minimum requirements as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 2-8-4 (FESOP)

Construction Permit CP 089-10413, issued on June 2, 1999, changed the source status from a minor source under 326 IAC 2-8, the FESOP Program, to a major source under 326 IAC 2-7, the Part 70 Permit Program. Therefore, the requirements of 326 IAC 2-8 will no longer apply upon this Part 70 approval and F089-5553-00435 will be superceded by permit T089-11102-00435.

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 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.

326 IAC 6-1-11.1 (Fugitive Dust Emissions for Lake County)

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

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

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

(c) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).

(d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.

(e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.

(f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.

(g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).

(h) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.

(i) The PM_{10} emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(j) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).

(k) Any facility or operation not specified in 326 IAC 6-1-11.1(d) shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the Fugitive Dust Control Plan, submitted on June 29, 1999.

326 IAC 6-4 (Fugitive Dust Emissions - General)

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

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

Pursuant to 326 IAC 6-5-1 (Applicability), any source of fugitive particulate matter emissions located in a nonattainment area for particulate matter, except for such a source located in Lake County, which has the potential to emit (PTE) fugitive particulate matter emissions at twenty-five (25) tons per year (tpy) or more; or any new source of fugitive particulate matter emissions located anywhere in the state and requiring a permit pursuant to 326 IAC 2 that has not received preconstruction permit approval before December 13, 1985, is subject to the applicable limitation(s). This source, which is located in Lake County, is not a new source and, therefore, is not subject to the requirements of this rule.

State Rule Applicability - Individual Facilities

326 IAC 6-1 (Particulate Rules - Nonattainment Area Limitations)

Pursuant to 326 IAC 6-1-1 (Applicability), specifically listed sources, or sources not specifically listed but located in a listed county and having either a potential to emit (PTE) one hundred (100) tons per year (tpy) or more or actual emissions of ten (10) tpy or more of particulate matter (PM), are subject to the applicable limitation(s).

The source is located in Lake County, a specifically listed county. The source and its facilities are not specifically listed at 326 IAC 6-1-10.1 and 10.2 and, therefore, neither of these rules apply. The source does not have a PTE PM at 100 tpy, nor does it have actual PM emissions of 10 tpy. Therefore, the general rule requirements of 326 IAC 6-1-2 do not apply. Aside from the applicable requirements of 326 IAC 6-1-11.1 (Fugitive Dust Emissions for Lake County) described above for the paved roads and parking areas, no other requirements of 326 IAC 6-1 apply to 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 5.3 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)

$Pt = 0.87 / 10.6^{0.16}$
= 0.596 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 10 of Appendix A)
= (0.045 tons PM/yr) * (2,000 lbs/ton) * (1 yr / 8,760 hrs) * (1 hr / 5.3 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 complies 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 38.8MMBtu 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)

$Pt = 1.09 / (38.8 + 10.6)^{0.26}$
= 0.395 lb PM / MMBtu

Compliance Calculation

Potential PM Emissions for Boiler No. 3:

= 0.323 tons per year per boiler (see page 4 of 10 of Appendix A)
= (0.323 tons PM/yr) * (2,000 lbs/ton) * (1 yr / 8,760 hrs) * (1 hr / 38.8 MMBtu/hr)
= 0.002 lbs PM / MMBtu

Based on these calculations, the controlled potential emissions are less than the allowable emissions. Therefore, the boiler complies with the rule.

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 this source.

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, and T003, with respective storage capacities of 250 gallons, 55 gallons and 55 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 8-6 (Organic Solvent Emission Limitations)

This rule applies to sources commencing operation after October 7, 1974 and prior to January 1, 1980, located anywhere in the state, with potential solvent VOC emissions of 100 tons per year or more, and not regulated by any other provision of Article 8. This source commenced operations prior to 1980, but has potential VOC emissions well below 100 tons per year. Therefore, the requirements of 326 IAC 8-6 are not applicable.

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. However, this rule is not applicable to this source since its PTE VOC is less than 25 tons per year and the source does not have surface coating facilities.

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, and T003, with respective storage capacities of 250 gallons, 55 gallons and 55 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 that the source shall comply with the following record keeping and reporting requirements:

(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.

(4) A description of the emission control equipment, or a schedule for installation of emission control equipment, for each vessel described in 326 IAC 8-9-4(a) or (b).

(b) All records required by (a) of this condition shall be maintained for the life of the affected vessel.

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.

Testing Requirements

Pursuant to the requirements of Construction Permit CP 089-11102-00435, issued June 2, 1999, the source performed IDEM, OAQ, witnessed performance testing during July 2000. The source will be required to conduct periodic compliance testing as explained below:

(a) Carbon monoxide (CO):
Instrumentation has been installed on Reformers 1, 2 and 3 to continuously record the percent and duration of valve opening for process vents connected to stacks S/V 006, 010 and 012, respectively. A stack test is required to determine the CO content of the exhaust gas stream as follows:

The Permittee shall perform carbon monoxide (CO) testing utilizing methods as approved by the Commissioner, to determine:

(1) The gaseous volumetric flow rate (standard cubic feet per minute), as a function of vent valve opening, for each process vent connected to, and exhausting at, stacks S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively; and

(2) CO in the gas upstream of the PSA units of Plant Nos. 1, 2 and 3; 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; and the vented CO (pounds per hour) at S/V 006, 010 and 012 during startup of Reformers 1, 2 and 3, respectively.

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

(b) NO_x:
Total fuel usage shall be limited such that total NO_x emitted from Reformers 1, 2 and 3 and Boiler 3 is limited to 63,900 pounds per twelve (12) consecutive month period, based on the formulae of Condition D.1.3. Periodic stack testing for NO_x is required to verify the coefficients of Equations (1) through (4) and demonstrate compliance with Condition D.1.3, as follows:

(1) 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.

(2) 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.

(c) Selective Catalytic Reduction (SCR) Unit:
Total fuel usage shall be limited such that total NO_x emitted from Reformers 1, 2 and 3 and Boiler 3 is limited to 63,900 pounds per twelve (12) consecutive month period, based on the formulae of Condition D.1.3. Compliance with this limit is based in part on proper operation of the SCR, with the control unit's performance determined empirically using the formula presented in Condition D.1.7(a). Periodic testing of the SCR unit is required to verify the equation of Condition D.1.7(a), and test elements of the catalyst should be removed at regular intervals (a 2-year frequency was noted by the vendor) for chemical analysis to determine if degradation has occurred. Additionally, testing to demonstrate compliance with the ammonia emission limit of D.1.4 is required. Testing shall be conducted as follows:

(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) Test for the following at least once every five years from the date of this valid compliance demonstration using applicable methods as approved by the Commissioner:

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

(2) ammonia concentration at stack S/V011;

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

(4) SCR system downstream temperature (EF); and

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

(c) 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.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less 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 requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also 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 monitoring requirements applicable to this source are as follows:

1. The Reformer Nos. 1, 2 and 3 process vent stacks, and Reformer No. 3 with selective catalytic reduction, have applicable compliance monitoring conditions as specified below:

   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 and 012 during startup of Reformers 1, 2 and 3, respectively, for measuring duration and amount 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

   (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;

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

      (3) the SCR unit 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 ammonia injection rate shall not be less than the minimum injection rate nor greater than the maximum injection rate used to demonstrate compliance during the most recent compliance stack test.

   (c) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when a reading is outside the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

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

   These monitoring conditions are necessary because Reformer Nos. 1, 2 and 3, and the Reformer 3 SCR system must operate properly to ensure compliance with 326 IAC 2-1.1-5 (Air Quality Requirements), 326 IAC 2-2 (PSD Minor Limit), 326 IAC 2-3 (Emission Offset Minor Limit) and 326 IAC 2-7 (Part 70).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the 1990 Clean Air Act. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Quality (OAQ) Part 70 Application Form GSD-08.

(a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act.

(b) See attached calculations for detailed air toxic calculations (see pages 3, 5, and 7 of 10 in Appendix A).

Conclusion

The operation of this industrial gas manufacturing source shall be subject to the conditions of the attached proposed Part 70 Permit No. T089-11102-00435.

Appendix A: Emission Calculations Summary

Company Name: Praxair, Inc.
Address City IN Zip: Foot of Standard Avenue, Whiting, Indiana 46394
Part 70 Permit Number: T089-11102-00435
Reviewer: Michael Hirtler / EVP
Date: August 4, 1999

Uncontrolled Potential Emissions (tons/year)

	Emissions Generating Activity										
Pollutant	Boiler Nos. 1 & 2	Boiler No. 3	Three (3) Emergency Generators & One (1) Emergency Firewater Pump	Reformer No. 1	Reformer No. 1 Process Vent Stack S/V 006	Reformer No. 2	Reformer No. 2 Process Vent Stack S/V 010	Reformer No. 3	Reformer No. 3 Process Vent Stack S/V 012	Vent Stack from CO2 Plant	TOTAL
PM	0.09	0.32	0.51	1.34	0.00	1.23	0.00	2.79	0.00	0.00	**6.28**
PM10	0.35	1.29	0.51	1.34	0.00	1.23	0.00	2.79	0.00	0.00	**7.51**
SO2	0.03	0.10	0.48	0.11	0.00	0.10	0.00	0.22	0.00	0.00	**1.04**
NOx	4.64	4.25	7.21	14.26	0.00	13.10	0.00	29.58	0.00	0.00	**73.04**
VOC	0.26	2.89	0.58	1.24	0.00	1.14	0.00	2.57	0.00	0.00	**8.68**
CO	3.90	6.29	1.55	2.48	13,188.18	2.27	12,392.77	5.14	19,893.96	32.21	**45528.75**
total HAPs	0.10	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.40**
worst case single HAP	0.10	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.40**

Total uncontrolled potential emissions based on rated capacity at 8,760 hours/year.

Controlled/Limited Potential Emissions (tons/year)

	Emissions Generating Activity										
Pollutant	Boiler Nos. 1 & 2	Boiler No. 3	Three (3) Emergency Generators & One (1) Emergency Firewater Pump	Reformer No. 1	Reformer No. 1 Process Vent Stack S/V 006	Reformer No. 2	Reformer No. 2 Process Vent Stack S/V 010	Reformer No. 3	Reformer No. 3 Process Vent Stack S/V 012	Vent Stack from CO2 Plant	TOTAL
PM	0.09	0.32	0.22	1.34	0.00	1.23	0.00	2.79	0.00	0.00	**5.99**
PM10	0.35	1.29	0.22	1.34	0.00	1.23	0.00	2.79	0.00	0.00	**7.22**
SO2	0.03	0.10	0.20	0.11	0.00	0.10	0.00	0.22	0.00	0.00	**0.76**
NOx	4.64	4.25	3.03	14.26	0.00	13.10	0.00	4.44	0.00	0.00	**39.62**
VOC	0.26	2.89	0.24	1.24	0.00	1.14	0.00	2.57	0.00	0.00	**8.34**
CO	3.90	6.29	0.65	2.48	196.06	2.27	196.06	5.14	196.06	32.21	**249.00**
total HAPs	0.10	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.40**
worst case single HAP	0.10	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.40**

Total controlled/limited emissions based on rated capacity assuming limited operations, after controls. See Pages 2 through 10 of TSD Appendix A for detailed information on PTE controls/limits for emissions generating equipment.
This includes the following: 1. The total fuel usage at Boiler No. 3 and Reformer Nos. 1, 2 & 3 is limited such that the total NOx shall not exceed 31.95 tons per year (see page 8 of 10 of TSD Appendix A).
2. The total CO production rate at the Reformer Nos. 1, 2 & 3 process vent stacks (S/V 006, 010, & 012) is limited to 196.1 tons per year such that the source-wide PTE is limited to less than 250 tons per year (see page 9 of 10 of TSD Appendix A).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
0.3 < MM BTU/HR <10
Boiler Nos. 1 & 2

Company Name: **Praxair, Inc.**
Address City IN Zip: **Foot of Standard Avenue, Whiting, Indiana 46394**
Part 70 Permit Number: **T089-11102-00435**
Reviewer: **Michael Hirtler / EVP**
Date: **August 4, 1999**

Potential To Emit (Emissions at 8,760 hours of operation per year without control):

Heat Input Capacity * MMBtu/hr	Annual Fuel Usage Limitation	Potential Throughput MMCF/yr
10.6	N/A	92.9

*Heat Input Capacity (MMBtu/hr) is total for two (2) 5.3 MMBtu/hr boilers, as Boiler Nos. 1 & 2

	Pollutant					
	PM **	PM-10 **	SO2	NOx ***	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.09	0.35	0.03	4.64	0.26	3.90

Limited Emissions (Emissions after annual fuel usage limitation):

Heat Input Capacity * MMBtu/hr	Annual Fuel Usage Limitation	Limited Throughput MMCF/yr
10.6	N/A	92.9

	Pollutant					
	PM **	PM-10 **	SO2	NOx ***	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
Limited Emission in tons/yr	0.09	0.35	0.03	4.64	0.26	3.90

** 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 (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
3 < MM BTU/HR <10
Boiler Nos. 1 & 2
HAPs Emissions

Company Name: Praxair, Inc.
Address City IN Zip: Foot of Standard Avenue, Whiting, Indiana 46394
Part 70 Permit Number: T089-11102-00435
Reviewer: Michael Hirtler / EVP
Date: August 4, 1999

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	0.0	0.0	0.0	0.1	0.0

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	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 2 of 10.

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
Boiler #3

Company Name: **Praxair, Inc.**
Address City IN Zip: **Foot of Standard Avenue, Whiting, Indiana 46394**
Part 70 Permit Number: **T089-11102-00435**
Reviewer: **Michael Hirtler / EVP**
Date: **August 4, 1999**

Potential to Emit (Based on 8760 hours without control)

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

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	25.0	17.0	37.0
Potential Emission in tons/yr	0.323	1.292	0.102	4.249	2.889	6.288

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 on December 1998. Emission Factors for VOC and CO are provided by source and shall be teste
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 3/9
PM emission factors are condensable and filterable.

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 <100
Boiler #3
HAPs Emissions

Company Name: Praxair, Inc.
Address City IN Zip: Foot of Standard Avenue, Whiting, Indiana 46394
Part 70 Permit Number: T089-11102-00435
Reviewer: Michael Hirtler / EVP
Date: August 4, 1999

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	0.0	0.0	0.0	0.3	0.0

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	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 4 of 10.

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
Combustion Engines - Diesel Fuel
Emergency Generators & Firewater Pump

Company Name: Praxair, Inc.
Address City IN Zip: Foot of Standard Avenue, Whiting, Indiana 46394
Part 70 Permit Number: T089-11102-00435
Reviewer: Michael Hirtler / EVP
Date: August 4, 1999

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					
Emission Factor in lb/hp-hr		PM 0.0022	PM-10 0.0022	SO2 0.0021	NOx 0.031	VOC 0.0025	CO 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

Limited Potential to Emit (tons per year)

Output Capacity Horsepower (hp)	Facility	Limited Throughput hp-hr/yr
92.0	emergency electrical generator - A4	46,000.0
154.0	emergency electrical generator - A13	15,400.0
519.0	emergency electrical generator - A15	51,900.0
165.0	emergency firewater pump - A5	82,500.0

	Facility	Pollutant					
Emission Factor in lb/hp-hr		PM 0.0022	PM-10 0.0022	SO2 0.0021	NOx 0.031	VOC 0.0025	CO 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	0.02	0.02	0.02	0.24	0.02	0.05
Potential Emissions in tons/yr	emergency electrical generator - A15	0.06	0.06	0.05	0.80	0.06	0.17
Potential Emissions in tons/yr	emergency firewater pump - A5	0.09	0.09	0.08	1.28	0.10	0.28
Total Limited Potential to Emit (tons per year):		0.22	0.22	0.20	3.03	0.24	0.65

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)

Limited Throughput (hp-hr/yr) = Potential Throughput = hp * 500 hr/yr for emergency generator A4 and emergency firewater pump A5
= hp * 100 hr/yr for emergency generators A13 & A15. This fuel use limitation on A13 & A15 is part of Condition D.x.x such that the requirements of 326 IAC 2-3 (Emission Offset) do n
Limited Emission (tons/yr) = [Limited 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: **Foot of Standard Avenue, Whiting, Indiana 46394**
Part 70 Permit Number: **T089-11102-00435**
Reviewer: **Michael Hirtler / EVP**
Date: **August 4, 1999**

	HAPs				
Emission Factor in lb/MMBtu	Benzene 9.33E-04	Toluene 4.09E-04	Xylenes 2.85E-04	Propylene 2.58E-03	1,3-Butadiene 3.91E-05
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

	HAPs				
Emission Factor in lb/MMBtu	Formaldehyde 1.18E-03	Acetaldehyde 7.67E-04	Acrolein 9.25E-05	Naphthalene 8.48E-05	0.00E+00
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology

Methodology is the same as page 6 of 10.
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.

Appendix A: Emission Calculations *
Reformers 1, 2 & 3 Firing Natural Gas/Tail Gas Fuel

Company Name: Praxair, Inc.
Address City IN Zip: Foot of Standard Avenue, Whiting, Indiana 46394
Part 70 Permit Number: T089-11102-00435
Reviewer: Michael Hirtler / EVP
Date: August 4, 1999

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		0.0076	0.0076	0.0006	0.0806	0.007	0.014
Potential Emissions in tons/yr	Reformer No. 1 - A3	1.34	1.34	0.11	14.26	1.24	2.48
Potential Emissions in tons/yr	Reformer No. 2 - A8	1.23	1.23	0.10	13.10	1.14	2.27
Potential Emissions in tons/yr	Reformer No. 3 - A11	2.79	2.79	0.22	29.58	2.57	5.14
Total Uncontrolled Potential to Emit (tons per year):		5.37	5.37	0.42	56.94	4.95	9.89

Controlled/Limited Potential to Emit (tons per year)

Heat Input Capacity (MMBtu per hour)	Facility	Limited 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	
		1,972	*Total Limited Throughput (MMCF/yr)* **

	Facility	Pollutant					
		PM	PM-10	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu		0.0076	0.0076	0.0006	0.0806	0.007	0.014
Limited Emissions in tons/yr	Reformer No. 1 - A3	1.34	1.34	0.11	14.26	1.24	2.48
Limited Emissions in tons/yr	Reformer No. 2 - A8	1.23	1.23	0.10	13.10	1.14	2.27
Limited Emissions in tons/yr	Reformer No. 3 - A11	2.79	2.79	0.22	29.58 (4.44) ***	2.57	5.14
Total Controlled/Limited Potential to Emit (tons per year):		< 5.37	< 5.37	< 0.42	31.95	< 4.95	< 9.89

Methodology

MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Heat content of reformer gas (mixture of natural gas and tail gas) = 402 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.

* Based on Appendix A to Technical Support Document to Construction Permit CP 089-10413-00435, issued June 2, 1999.

** Limited Throughput (MMCF/yr) = 1,972 MMCF per year total fuel consumption in Reformer Nos. 1, 2 & 3, plus Boiler No. 3. This fuel usage limitation is equivalent to l imiting NOx emissions to 31.95 tons per year from the four (4) facilities. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) do not apply. Pursuant to Condition D.x.x of the Part 70 permit, the annual NOx limitation is expressed as follows:

32.4 AA + 5.45 BB + 25 NN <= 63,900 pounds per year (31.95 tons per year)

This annual emission rate limit is equivalent to the following 12-month rolling fuel (natural gas and tail gas mixture) usage limit:

AA + 0.168 BB + 0.772 NN <= 1,972 million equivalent standard cubic feet per year

where: AA = Reformers #1 and #2 annual fuel consumption in MMCF/yr
BB = Reformer #3 annual fuel consumption in MMCF/yr
NN = Boiler #3 annual fuel consumption in MMCF/yr

*** Reformer No. 3, identified as A11, is equipped with selective catalytic reduction (SCR) as a post-combustion NOx control with a minimum 85% NOx control efficiency. The value in parenthesis reflects the controlled NOx emission rate. This controlled emission rate, however, is not reflected in the total controlled/limited potential to emit. Rather, the control efficiency is applied to the factor developed for Reformer #3 shown in the above equation (i.e., 5.45).

Appendix A: Emission Calculations
Reformer Nos. 1, 2 & 3 Process Startup Vent Stacks
Company Name: Praxair, Inc.
Address City IN Zip: Foot of Standard Avenue, Whiting, Indiana 46394
Part 70 Permit Number: T089-11102-00435
Reviewer: Michael Hirtler / EVP
Date: August 4, 1999

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	26,490,240.00	13,245.12
Process Vent Stack to Reformer No. 2 (S/V 010):			
CO2 Absorber	895.67	7,846,104.19	3,923.05
PSA Feed	979.28	8,578,477.84	4,289.24
PSA Tail Gas	975.05	8,541,417.97	4,270.71
Total Potential to Emit from S/V 010:	*2,850.00*	*24,966,000.00*	*12,483.00*
Process Vent Stack to Reformer No. 3 (S/V 012):			
CO2 Absorber	1,542.37	13,511,144.73	6,755.57
PSA Feed	1,539.32	13,484,407.64	6,742.20
PSA Tail Gas	1,539.32	13,484,407.64	6,742.20
Total Potential to Emit from S/V 012:	*4,621.00*	*40,479,960.00*	*20,239.98*
Uncontrolled Potential to Emit (total from S/V 006, 010 & 012):	10,495.00	91,936,200.00	45,968.10
Limited Potential to Emit (total from S/V 006, 010 & 012): *	10,495.00	392,120.00	196.06

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. The startup includes venting of CO from following locations: (a) CO2 absorber feed line (1 hour/startup); (b) PSA feed line (2 hour/startup), and (c) PSA tail gas (1 hour/startup). Therefore, each startup will take a total of 4 hours, with a maximum potential of 2,190 startups in total per year.

Uncontrolled Potential to Emit per Vent (ton/yr) = Emission Rate (lbs/hr) * 8,760 hrs/yr * 1 ton/2,000 lbs

* Based on Construction Permit CP 089-10413-00435, issued on June 2, 1999.

Limited Potential to Emit (ton/yr) = 196.1 tons per twelve (12) month period, rolled on a monthly basis, total for process vent stacks to Reformer Nos 1, 2 & 3 (S/V 006, 010 & 012, respectively). Based on a CO density of 0.072 pounds per standard cubic feet, this rate is computed as the equivalent to a total CO production rate of 5.45 million standard cubic feet per year (MMscf/yr) from S/V 006, 010 & 012. Instrumentation to continuously compute the amount of CO vented from S/V 006, 010 & 012, and computes the CO emission rate as a function of the duration and amount of vent valve opening, shall be permanently installed on each vent and shall be periodically tested. This production limitation, plus the potential to emit from all other source-wide CO emissions generating activities, is equivalent to source-wide CO emissions of less than 250 tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21 {Prevention of Significant Deterioration) do not apply to the source.

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

Company Name: Praxair, Inc.
Address City IN Zip: Foot of Standard Avenue, Whiting, Indiana 46394
Part 70 Permit Number: T089-11102-00435
Reviewer: Michael Hirtler / EVP
Date: August 4, 1999

Potential To Emit (tons/yr):

Process	Emission Rate (lbs/hr)	Uncontrolled Emissions (lbs/yr)	Uncontrolled Emissions (tons/yr)
CO2 Waste Gas	7.21	63,159.60	31.58
CO2 Feed	7.50	65,700.00	32.85
Maximum expected emissions:	**7.36**	**64,429.80**	**32.21**

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.