



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

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

TO: Interested Parties / Applicant  
DATE: January 20, 2006  
RE: Praxair, Inc. / 127-20999-00069  
FROM: Paul Dubenetzky  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures  
FNPER.dot 1/10/05



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## MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Praxair, Inc., Burns Harbor  
1224 North Boo Road  
Burns Harbor, Indiana 46304**

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

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 127-20999-00069	
Issued by: Original Signed By: Nisha Sizemore, Section Chief Office of Air Quality	Issuance Date: January 20, 2006 Expiration Date: January 20, 2011

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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 and A.2 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 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

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

Authorized Individual:	Plant Manager
Source Address:	1224 North Boo Road, Burns Harbor, Indiana 46304
Mailing Address:	1224 North Boo Road, Chesterton, Indiana 46304
General Source Phone Number:	(219) 787-8651 ext. 25
SIC Code:	2813
County Location:	Porter
Source Location Status:	Nonattainment for ozone, 8-hr ozone, PM <sub>2.5</sub> , and Attainment for all other criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source under PSD and Emission Offset Rules; Minor Source, Section 112 of the Clean Air Act

### A.2 Emissions Units and Pollution Control Equipment Summary

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This stationary source is approved to operate the following emissions units:

- (a) One (1) natural gas-fired boiler identified as A1 (a.k.a. Driox Boiler), installed in 1978, exhausting to Stack 001, rated at 42 million British thermal units per hour (MMBtu/hr).
- (b) One (1) natural gas-fired boiler identified as A2 (a.k.a. Low Pressure ("LP") Boiler), installed in 1975, exhausting to Stack 002, rated at 5 million British thermal units per hour (MMBtu/hr).
- (c) Emergency (backup) electrical generators as follows: Two (2) diesel-fired emergency generators, rated at 750 horsepower (500 kW; 5.5 MMBtu/hr) each:
  - (1) Unit A3, installed in 1975, exhausting to Stack 003, and
  - (2) Unit A4, installed in 1978, exhausting to Stack 004.
- (d) One (1) natural gas-fired "non-contact" thaw heater identified as A5, installed in 1975, exhausting to Stack 005, rated at 26 million British thermal units per hour (MMBtu/hr).
- (e) One (1) natural gas-fired regeneration heater identified as A9, installed in 2003, exhausting to Stack 009, rated at 10.7 million British thermal units per hour (MMBtu/hr).
- (f) One (1) natural gas-fired regeneration heater identified as A10, installed in 2005, exhausting to Stack 010, rated at 10.7 million British thermal units per hour (MMBtu/hr).
- (g) Noncontact induced draft cooling tower system not regulated under a NESHAP:
- (h) The following VOC and HAP storage containers: Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

- (i) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (two (2) soak and spray cold cleaner degreasers, identified as A6 and A7).
- (j) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (k) Closed loop heating and cooling systems.
- (l) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (m) Paved and unpaved roads and parking lots with public access.
- (n) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (o) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons (identified as Unit T003).
- (p) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month (identified as Units T001 and T002).
- (q) Filter or coalescer media changeout.

## **SECTION B GENERAL CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

### **B.1 Permit No Defense [IC 13]**

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This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

### **B.2 Definitions**

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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 2-1.1-1 shall prevail.

### **B.3 Effective Date of the Permit [IC13-15-5-3]**

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Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

### **B.4 Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]**

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This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

### **B.5 Modification to Permit [326 IAC 2]**

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All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

### **B.6 Annual Notification [326 IAC 2-6.1-5(a)(5)]**

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- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:  
  
Compliance Branch, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue  
Indianapolis, IN 46204-2251
- (c) The notification 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.

### **B.7 Preventive Maintenance Plan [326 IAC 1-6-3]**

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- (a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) for the source as described in 326 IAC 1-6-3. At a minimum, the PMPs shall include:

- (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  
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

**B.8 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]**

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- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.
- (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  
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a non-road engine, as defined in 40 CFR 89.2.

**B.9 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)] [IC 13-14-2-2] [IC13-17-3-2] [IC 13-30-3-1]**

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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 permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

**B.10 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]**

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Pursuant to [326 IAC 2-6.1-6(d)(3)]:

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by a notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

**B.11 Annual Fee Payment [326 IAC 2-1.1-7]**

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- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

**B.12 Credible Evidence [326 IAC 1-1-6]**

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

## SECTION C

## SOURCE OPERATION CONDITIONS

Entire Source

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

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

### C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

### C.3 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 forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute non-overlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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

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

### C.5 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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- (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  
Indianapolis, Indiana 46204-2251

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

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

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

### Testing Requirements

#### C.7 Performance Testing [326 IAC 3-6]

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- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. 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  
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date.

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual date.
- (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 the IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

### Compliance Requirements

#### C.8 Compliance Requirements [326 IAC 2-1.1-11]

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

### Compliance Monitoring Requirements

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

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Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

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

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

#### C.11 Response to Excursions or Exceedances

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- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions).
- (c) Such actions may include:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (d) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; and
  - (3) inspection of the control device, associated capture system, and the process.
- (e) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (f) The Permittee shall maintain the following records:
  - (1) monitoring data;
  - (2) monitor performance data, if applicable; and
  - (3) corrective actions taken.

#### **Record Keeping and Reporting Requirements**

#### C.12 Malfunctions Report [326 IAC 1-6-2]

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Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as

practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.13 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented when operation begins.

C.14 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) 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  
Indianapolis, Indiana 46204-2251
- (b) 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.
- (c) Unless otherwise specified in this permit, any report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) 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, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

C.15 Emission Statement [326 IAC 2-6]

- (a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit an emission statement by July 1 following a calendar year when the source emits oxides of nitrogen into the ambient air equal to or greater than twenty - five (25) tons. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

The statement must be submitted to:

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

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-1.1-1(1).

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

## SECTION D.1 EMISSIONS UNITS OPERATION CONDITIONS

### Emissions Unit Description:

- (a) One (1) natural gas-fired boiler identified as A1 (a.k.a. Driox Boiler), installed in 1978, exhausting to Stack 001, rated at 42 million British thermal units per hour (MMBtu/hr).
- (b) One (1) natural gas-fired boiler identified as A2 (a.k.a. Low Pressure ("LP") Boiler), installed in 1975, exhausting to Stack 002, rated at 5 million British thermal units per hour (MMBtu/hr).

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

### Emission Limitations and Standards

#### D.1.1 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-2]

- (a) Pursuant to 326 IAC 6-2-2 (Particulate Emission Limitations for Sources of Indirect Heating: Emission limitations for facilities specified in 326 IAC 6-2-1(b)), the PM emissions from the boilers are limited by the following equation:

$$Pt = \frac{0.87}{Q^{0.16}}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input.

Pursuant to 326 IAC 6-2-2(c), the emission limitations for those indirect heating facilities which began operation after June 8, 1972, and before September 21, 1983, shall be calculated using the above equation where: Q includes the capacity for the facility in question and the capacities for those facilities which were previously constructed.

For Unit A1, installed in 1978:

$$Q = 5 \text{ MMBtu/hr} + 42 \text{ MMBtu/hr} = 47 \text{ MMBtu/hr}$$

Therefore, for **Unit A1, Pt = 0.47 lb/MMBtu.**

- (b) Pursuant to 326 IAC 6-2-2(a), for Q less than 10 MMBtu/hr, Pt shall not exceed 0.6.

For Unit A2, installed in 1975, Q = 5 MMBtu/hr.

Therefore, for **Unit A2, Pt = 0.6 lb/MMBtu.**

## SECTION D.2

## EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

- (i) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (identified as two (2) soak and spray cold cleaner degreasers, A6 and A7).

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

### Emission Limitations and Standards

#### D.2.1 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations constructed after January 1, 1980, the owner or operator shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere

#### D.2.2 Volatile Organic Compounds (VOC)

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs existing as of July 1, 1990, located in Porter County, and for any new cold cleaning facility construction of which commenced after July 1, 1990, the Permittee shall ensure that the following requirements are met:
- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
    - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
    - (B) The solvent is agitated; or
    - (C) The solvent is heated.
  - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
  - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
  - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38<sup>EC</sup>) (one hundred degrees Fahrenheit (100<sup>EF</sup>)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9<sup>EC</sup>) (one hundred twenty degrees Fahrenheit (120<sup>EF</sup>)):
    - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
    - (B) A water cover when the solvent used is insoluble in, and heavier than, water.
    - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
  - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

<b>Company Name:</b>	<b>Praxair, Inc., Burns Harbor</b>
<b>Address:</b>	<b>1244 North Boo Road</b>
<b>City:</b>	<b>Burns Harbor, Indiana 46304</b>
<b>Phone #:</b>	<b>219-787-8651 ext. 25</b>
<b>MSOP #:</b>	<b>127-20999-00069</b>

I hereby certify that Praxair, Inc., Burns Harbor is  still in operation.  
 no longer in operation.

I hereby certify that Praxair, Inc., Burns Harbor is  in compliance with the requirements of **MSOP 127-20999-00069**.  
 not in compliance with the requirements of **MSOP 127-20999-00069**.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>

**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6  
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?\_\_\_\_\_, 25 TONS/YEAR SULFUR DIOXIDE ?\_\_\_\_\_, 25 TONS/YEAR NITROGEN OXIDES?\_\_\_\_\_, 25 TONS/YEAR VOC ?\_\_\_\_\_, 25 TONS/YEAR HYDROGEN SULFIDE ?\_\_\_\_\_, 25 TONS/YEAR TOTAL REDUCED SULFUR ?\_\_\_\_\_, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?\_\_\_\_\_, 25 TONS/YEAR FLUORIDES ?\_\_\_\_\_, 100 TONS/YEAR CARBON MONOXIDE ?\_\_\_\_\_, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?\_\_\_\_\_, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?\_\_\_\_\_. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERM LIMIT OF \_\_\_\_\_

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: \_\_\_\_\_ PHONE NO. ( ) \_\_\_\_\_  
LOCATION: (CITY AND COUNTY) \_\_\_\_\_  
PERMIT NO. \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_  
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/19\_\_\_\_ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/19\_\_\_\_ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_

INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

\*SEE PAGE 2

**Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1 Applicability of rule**

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

**326 IAC 1-2-39 "Malfunction" definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

**\*Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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**Indiana Department of Environmental Management  
Office of Air Quality**

Technical Support Document (TSD) for a Minor Source Operating Permit

**Source Background and Description**

Source Name:	Praxair, Inc., Burns Harbor
Source Location:	1224 North Boo Road, Burns Harbor, Indiana 46304
County:	Porter
SIC Code:	2813
Permit Revision/Transition No.:	MSOP 127-20999-00069
Permit Reviewer:	Vickie Cordell

The Office of Air Quality (OAQ) has reviewed an application from Praxair, Inc., Burns Harbor relating to the operation of a stationary industrial gas manufacturing operation.

Although the SIC code is for a chemical plant, this source actually produces oxygen, nitrogen, argon and rare atmospheric gases from air by cryogenic air separation. This is a physical (not chemical) process. Air from the atmosphere is purified, compressed, cooled to cryogenic temperatures, and fractionally distilled to separate its components. The unused portion of the intake air is returned to the atmosphere.

Water vapor and carbon dioxide are removed from the incoming air to purify it prior to the air separation process. The prepurifier vessels contain a granular molecular sieve that becomes saturated every few hours and must be de-sorbed. De-sorption is accomplished by routing hot nitrogen gas through the prepurifier vessel. The nitrogen is heated by natural gas-fired regeneration heaters.

**Emission Units and Pollution Control Equipment**

The source consists of the following emission units:

- (a) One (1) natural gas-fired boiler identified as A1 (a.k.a. Driox Boiler), installed in 1978, exhausting to Stack 001, rated at 42 million British thermal units per hour (MMBtu/hr).
- (b) One (1) natural gas-fired boiler identified as A2 (a.k.a. Low Pressure ("LP") Boiler), installed in 1975, exhausting to Stack 002, rated at 5 million British thermal units per hour (MMBtu/hr).
- (c) Emergency (backup) electrical generators as follows: Two (2) diesel-fired emergency generators, rated at 750 horsepower (500 kw; 5.5 MMBtu/hr) each:
  - (1) Unit A3, installed in 1975, exhausting to Stack 003, and
  - (2) Unit A4, installed in 1978, exhausting to Stack 004.
- (d) One (1) natural gas-fired "non-contact" thaw heater identified as A5, installed in 1975, exhausting to Stack 005, rated at 26 million British thermal units per hour (MMBtu/hr).
- (e) One (1) natural gas-fired regeneration heater identified as A9, installed in 2003, exhausting to Stack 009, rated at 10.7 million British thermal units per hour (MMBtu/hr).

- (f) One (1) natural gas-fired regeneration heater identified as A10, installed in 2005, exhausting to Stack 010, rated at 10.7 million British thermal units per hour (MMBtu/hr).
- (g) Noncontact induced draft cooling tower system not regulated under a NESHAP.
- (h) The following VOC and HAP storage containers: Vessels storing lubricating oils, hydraulic oils, machining oils, and/or machining fluids.
- (i) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (two (2) soak and spray cold cleaner degreasers, identified as A6 and A7).
- (j) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (k) Closed loop heating and cooling systems.
- (l) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (m) Paved and unpaved roads and parking lots with public access.
- (n) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (o) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons (identified as Tank T003, capacity 500 gallons, installed in 1976).
- (p) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month (identified as Tank T001, capacity 2,000 gallons, installed in 1975; and Tank T002, capacity 500 gallons, installed in 1998).
- (q) Filter or coalescer media changeout.

**Notes:** The cooling tower system listed above includes two (2) towers with a 44,000 gpm combined recirculation rate: 3,600 gpm used to cool compressed air in a direct contact aftercooler preceding the cryogenic separation unit, and 40,400 gpm for noncontact compressor heat exchangers. The only process material contacted by the cooling water is air that has been taken from the ambient air for the separation process. This contact is equivalent to, or cleaner than, the air contact in the cooling towers. Therefore, the IDEM, OAQ, has made a case-specific determination that this cooling tower system is a noncontact system for air permitting purposes.

A previously-issued Registration included two (2) prepurifier vessels in the equipment description. However, as detailed above in the Source Description there are no air pollutants emitted from those units.

The application also noted that there are stationary fire pumps at the plant. However, all of these are electric and are not considered to be emission units.

## Existing Approvals

There was no valid operating permit for the source at the time of this review. The source has been operating under previous approvals including, but not limited to, the following:

- (a) Exemption Letter for 42 MMBtu/hr boiler, issued by the Indiana Air Pollution Control Board on October 24, 1978;
- (b) Construction Permit 127-5530-00069 issued on July 28, 1997; and
- (c) Registration 127-8705-00069 issued on October 8, 1997.

CP 5530 required the Permittee to submit an Affidavit of Construction and receive an Operation Permit Validation letter, and to apply for an operation permit renewal before expiration of the permit. No Affidavit of Construction was submitted and no Validation letter was issued. The Validation letter would have included a 2002 permit expiration date. No renewal application was submitted.

Revisions to 326 IAC 2 in 1998 required submittal of a Minor Source Operating Permit (MSOP) application before the expiration of the previously-issued permit, if the permit was a valid operating permit, or in 1999. No MSOP application was submitted.

An application for a revision to Registration CP 8705 was received March 21, 2005, for replacement of two gas-fired process heaters. The heater installation was determined to be exempt from preconstruction approval requirements due to the unit size and low potential to emit (PTE), but the source was found to have no valid operating permit. Additional information was requested and submitted to complete the application for this Minor Source Operating Permit.

### **All conditions from previous approvals were incorporated into this permit except the following:**

- (a) Construction Permit 127-5530-00069 issued on July 28, 1997
  - (1) Operation Conditions 7 (operational limit for emergency generators), 8 (operating time meter for emergency generators), and 13 (quarterly reporting of hours of operation of emergency generators) are deleted, as shown:
    - ~~7.— That the No. 2 fuel oil usage in the two (2) emergency generators, identified as A3 and A4 shall be limited to 458 hours of operations each, per twelve (12) consecutive month period, rolled on a monthly basis. This operating limitation combined with the potential fuel usage for Boilers A1 and A2 is equivalent to source wide NO<sub>x</sub> emissions of 53.0 tons per twelve (12) month period. The total number of hours for each month shall not exceed the difference between the annual limit minus the sum of actual hours from the previous eleven (11) months. Compliance is based on the total operating hours during the previous twelve (12) months. Therefore, the Emission Offset rules, 326 IAC 2-3, will not apply. During the first 12 months of operation under this permit, the operating hours shall not exceed 38.2 hours per month. Additionally, by limiting operating hours to less than 500 hours per year, two emergency generators are classified as insignificant activities under Title V and FESOP programs. Therefore, the requirements under 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-8 (FESOP) do not apply.~~
    - ~~8.— That a cumulative operating time meter, equipped with a continuous recorder for documenting the time of emergency generator usages, shall be~~

~~permanently installed on each emergency generator and operated at all times when each emergency generator is in operation.~~

~~(a) The Permittee shall review the cumulative operating hours from each time meter, at least once per week.~~

~~(b) The instrument used for determining the operating hours shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.~~

~~13. That a log of information necessary to document compliance with operation permit condition number 7 shall be maintained. These records shall be kept for at least the past 36 month period and made available upon request to the Office of Air Management (OAM). A quarterly summary shall be submitted to:~~

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

~~and~~

~~IDEM Northwest Regional Office  
Gainer Bank Building  
504 North Broadway  
Suite 418  
Gary, Indiana 46402~~

**Reason not incorporated:**

Pursuant to an EPA guidance documented issued September 6, 1995, "Calculating Potential to Emit (PTE) for Emergency Generators", "generators devoted to emergency uses are clearly constrained in their operation, in the sense that, by definition and design, they are used only during periods where electric power from public utilities is unavailable", and the PTE for the emergency generators can be calculated at 500 hours per year each without specifically limiting the usage in the permit. Therefore, the limit on the hours of operation and the requirements to record and report the usage have been deleted.

**Note:** As shown in TSD Appendix A page 5, the change from the annual limit of 458 hours per generator to a maximum potential annual operation of 500 hours per generator results in a combined NO<sub>x</sub> PTE increase of 0.7 tons per year.

(2) Condition 11 (Particulate Emission Limitations for Sources of Indirect Heating) has been deleted; the replacement condition is shown later in this TSD under the heading State Rule Applicability – Individual Facilities.

~~11. That pursuant to 326 IAC 6-2-2(a) (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from the 5 million British thermal units per hour boiler, and the 26 million British thermal units per hour process heater shall each be limited to 0.5 pound per million British thermal units heat input. Particulate matter (PM) emissions from the 42 million British thermal units per hour boiler shall be limited to 0.4 pound per million British thermal units heat input.~~

**Reason not incorporated:**

326 IAC 6-2 is applicable only to boilers. The 26 MMBtu/hr process heater was erroneously included in the condition wording and in the allowable emissions determinations for boilers A1 and A2.

- (b) Registration CP 127-8705-00069 issued on October 8, 1997

Condition 2 (Particulate Emissions Limitation, pursuant to 326 IAC 6-2-4) and Condition 3 (NSPS Reporting Requirement, for boilers subject to 40 CFR 60 Subpart Dc) have not been included in the current permit draft:

**2. Particulate Emissions Limitation**

~~Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitation for Sources of Indirect Heating), the particulate matter (PM) emissions from the two (2) 12 million Btu per hour (mmBtu/hr) regeneration boilers shall be limited to 0.33 lb/MMBtu heat input.~~

**3. NSPS Reporting Requirement**

~~Pursuant to the New Source Performance Standards (NSPS), Part 60.48c, Subpart Dc, the source owner/operator of the two (2) 12 mmBtu/hr boilers is hereby advised of the requirement to report the following at the appropriate times:~~

- ~~(a) Commencement of construction date (no later than 30 days after such date);~~
- ~~(b) Anticipated start up date (not more than 60 days or less than 30 days prior to such date);~~
- ~~(c) Actual start up date (within 15 days after such date);~~
- ~~(d) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility; and~~
- ~~(e) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.~~

~~Reports are to be sent to:~~

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

~~and~~

~~Northwest Regional Office  
NBD Bank Building  
504 North Broadway, Suite 418  
Gary, Indiana 46402~~

**Reason not incorporated:**

As stated in the combustion forms in the Registration application and in the current permit application, the regeneration heaters are not boilers. The units do not generate steam; therefore, 326 IAC 6-2-4 and NSPS Subpart Dc are not applicable.

## Enforcement Issue

- (a) IDEM is aware that the source has been operating without the proper permit.

Pursuant to 326 IAC 2-6.1-2, as revised December, 1998, the source was required to apply for a Minor Source Operating Permit before the expiration of the previously-issued construction permit, if the permit was a valid operating permit, or no later than December 27, 1999.

- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the operation permit rules.

## Recommendation

The staff recommends to the Commissioner that the operation 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.

A complete application for the purposes of this review was received on March 21, 2005.

## County Attainment Status

The source is located in Porter County.

Pollutant	Status
PM10	attainment
PM2.5	nonattainment
SO2	nonattainment
NO2	attainment
Ozone	severe nonattainment
8-Hour Ozone	moderate nonattainment
CO	attainment
Lead	attainment

- (a) U.S. EPA in Federal Register Notice 70 FR 943 dated January 5, 2005 has designated Porter County as nonattainment for PM2.5. On March 7, 2005 the Indiana Attorney General's Office on behalf of IDEM filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of non-attainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM10 emissions as a surrogate for PM2.5 emissions pursuant to the Non-attainment New Source Review requirements.
- (b) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone.
- (1) On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NOx threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the

1-hour ozone standards. Porter County has been designated as nonattainment in Indiana for the 1-hour ozone standard. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.

- (2) VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. Porter County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.

**Emission Calculations**

See Appendix A of this document for detailed emission calculations.

**Potential to Emit of the Source / Source Status**

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

Process/emission unit	Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Combined HAPs
Gas-fired boilers A1 & A2 and Heater A5	0.6	2.4	0.2	32.0	1.8	26.9	0.6
Emergency generators A3 & A4 (PTE @ 500 hrs/yr)	0.3	0.2	1.4	8.8	0.3	2.3	0.0
Regen. heaters A9 & A10	0.2	0.7	0.1	9.4	0.5	7.9	0.2
Cooling Towers	48.2	48.2	-	-	-	-	-
Total PTE	49.3	51.5	1.7	50.2	2.6	37.1	0.8

The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than 100 tons per year. The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.

This source is not a major stationary source under Emission Offset (326 IAC 2-3) because no nonattainment pollutant (VOC, NO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>) is emitted at a rate of 100 tons per year or greater. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

This source is not a major stationary source under PSD (326 IAC 2-2) because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

### Actual Emissions

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

Pollutant	Emissions (tons/yr)
PM	0.3
PM-10	0.3
PM-2.5	0.3
SO <sub>2</sub>	0.0
VOC	0.2
CO	3.0
NO <sub>x</sub>	3.7

### Stack Summary

Stack ID	Operation	Height (ft)	Diameter (inches)	Flow Rate (acfm)	Temperature (°F)
001	Boiler A1	24	36	26,400	650
002	Boiler A2	24	16	3,150	650
003	Emergency Generator A3	17	4 in. each*	3,700	910
004	Emergency Generator A4	17	4 in. each*	3,700	910
005	Process Heater A5	43	36	16,350	700
009	Regeneration Heater A9	25	14	3,653	437
010	Regeneration Heater A10	25	14	3,653	437

\* The emergency generators each have dual stacks that share a stack ID; each generator stack is 4 inches in diameter and the total exhaust flow rate from each generator is 3,700 acfm.

### Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from all of the facilities included in this permit 127-20999-00069, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons per year.

This status is based on all the air approvals issued to the source.

### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.

### Oil and gasoline storage tanks

Tanks T001 (installed in 1975) and T003 (installed in 1976) are not subject to the requirements of the New Source Performance Standard (40 CFR 60) Subpart K (Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and prior to May 19, 1978) because neither of the tanks has a capacity of 40,000 gallons or more. In addition, Subpart K specifically exempts Nos. 2 through 6 fuel oils from the definition of Petroleum Liquids.

Tank T002 (installed in 1998) is not subject to the requirements of the New Source Performance Standard (40 CFR 60) Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984) because the tank capacity is less than 75 m<sup>3</sup>.

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 20 and 40 CFR Part 61, 63) applicable to this source. The source HAP emissions are less than ten (10) tons per year for a single HAP and twenty-five (25) tons per year for a combination of HAPs.

### **State Rule Applicability – Entire Source**

#### 326 IAC 2-6 (Emission Statement)

- (a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit an emission statement by July 1 following a calendar year when the source emits oxides of nitrogen into the ambient air equal to or greater than twenty-five (25) tons. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

The statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204

The emission statement does require the certification by the “responsible official” as defined by 326 IAC 2-1.1-1(1).

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

**Note:** Pursuant to 326 IAC 2-6-4(b), emissions from processes that are insignificant or trivial activities as defined in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40) are not required to be reported in an emission statement. Although the specified definitions are found in the Part 70 requirements, 326 IAC 2-6-4(b) is also applicable to minor sources.

#### 326 IAC 5-1 (Opacity Emissions Limitations)

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### **State Rule Applicability – Individual Facilities**

#### 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The stationary industrial gas manufacturing operation will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

#### Boilers A1 and A2

#### 326 IAC 6-2-2 (Particulate Emission Limitations for Sources of Indirect Heating)

- (a) Pursuant to 326 IAC 6-2-2 (Particulate Emission Limitations for Sources of Indirect Heating: Emission limitations for facilities specified in 326 IAC 6-2-1(b)), the PM emissions from the boilers are limited by the following equation:

$$Pt = \frac{0.87}{Q^{0.16}}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input.

Pursuant to 326 IAC 6-2-2(c), the emission limitations for those indirect heating facilities which began operation after June 8, 1972, and before September 21, 1983, shall be calculated using the above equation where: Q includes the capacity for the facility in question and the capacities for those facilities which were previously constructed.

For Unit A1, installed in 1978,  $Q = 5 \text{ MMBtu/hr} + 42 \text{ MMBtu/hr} = 47 \text{ MMBtu/hr}$ .

Therefore, for **Unit A1**, **Pt = 0.47 lb/MMBtu**.

- (b) Pursuant to 326 IAC 6-2-2(a), for Q less than 10 MMBtu/hr, Pt shall not exceed 0.6.

For Unit A2, installed in 1975,  $Q = 5 \text{ MMBtu/hr}$ .

Therefore, for **Unit A2**, **Pt = 0.6 lb/MMBtu**.

#### Boilers, Emergency Generators, Thaw Heater, and Regeneration Heaters

#### 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The requirements of 326 IAC 7-1.1 are not applicable to any of the combustion units, because the potential to emit SO<sub>2</sub> from each unit is less than ten (10) pounds per hour and twenty-five (25) tons per year.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

The thaw heaters and regeneration heaters are not subject to 326 IAC 6-2 because the units are not boilers.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(1) (Particulate Emission Limitations for Manufacturing Processes: Applicability), combustion processes for indirect heating are exempt from 326 IAC 6-3. Internal combustion facilities, such as the emergency generators, are also not subject to the rule.

Degreasing Operations

326 IAC 8-3 (Volatile Organic Compounds (VOC))

(a) Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations constructed after January 1, 1980, the owner or operator shall:

- (1) Equip the cleaner with a cover;
- (2) Equip the cleaner with a facility for draining cleaned parts;
- (3) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (5) Provide a permanent, conspicuous label summarizing the operation requirements;
- (6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

(b) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs existing as of July 1, 1990, located in Porter county, and for any new cold cleaning facility construction of which commenced after July 1, 1990, the Permittee shall ensure that the following requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
  - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
  - (B) The solvent is agitated; or
  - (C) The solvent is heated.
- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
  - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
  - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
    - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
    - (B) A water cover when the solvent used is insoluble in, and heavier than, water.
    - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (c) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
  - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

### Cooling Towers

#### 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(11) (Particulate Emission Limitations for Manufacturing Processes: Applicability), noncontact cooling towers are exempt from 326 IAC 6-3.

**Note:** As explained in the equipment description portion of this TSD, the cooling tower system has been determined to be a noncontact system for air permitting purposes.

### **Conclusion**

The operation of this industrial gas manufacturing operation shall be subject to the conditions of the Minor Source Operating Permit 127-20999-00069.

# Indiana Department of Environmental Management Office of Air Quality

## Addendum to the Technical Support Document for a Significant Source Modification

Source Name: Praxair, Inc., Burns Harbor  
Source Location: 1224 North Boo Road, Burns Harbor, Indiana 46304  
County: Porter  
SIC Code: 2813  
Permit Revision/Transition No.: MSOP 127-20999-00069  
Permit Reviewer: Vickie Cordell

On November 7, 2005, the Office of Air Quality (OAQ) had a notice published in the Chesterton Tribune in Chesterton, Indiana, stating that Praxair, Inc., Burns Harbor had applied for a Minor Source Operating Permit (MSOP). The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

No comments were received from the source or the public. However, upon further review, the IDEM Office of Air Quality (OAQ) has made the following additional changes to the permit (bolded language has been added, the language with a line through it has been deleted).

### Revision 1

The zip code for IDEM has been amended in Conditions B.6 (Annual Notification), B.7 (Preventive Maintenance Plan), B.8 (Permit Revision), C.6 (Asbestos Abatement Projects), C.7 (Performance Testing), C.14 (General Reporting Requirements), and C.15 (Emission Statement).

100 North Senate Avenue  
Indianapolis, IN 46204-2251

### Revision 2

The Table of Contents has been corrected.

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### Revision 3

The Source Location Status in Condition A.1 has been corrected; Porter County is not designated as a nonattainment area for PM<sub>10</sub>.

#### A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

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County Location:	Porter
Source Location Status:	Nonattainment for ozone, 8-hr ozone, <del>PM<sub>10</sub></del> , PM <sub>2.5</sub> , and Attainment for all other criteria pollutants

### Revision 4

The Preventive Maintenance Plan condition has been revised for grammatical consistency.

#### B.7 Preventive Maintenance Plan [326 IAC 1-6-3]

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- (b) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. ~~The PMP does~~ **PMPs do** not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

### Revision 5

The Performance Testing condition has been corrected; there is no local air permitting agency for Porter County.

#### C.7 Performance Testing [326 IAC 3-6]

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

### Revision 6

The unit descriptions at the beginning of Section D.1 have been revised to match the descriptions used in Condition A.2 and the Technical Support Document.

#### SECTION D.1 EMISSIONS UNITS OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) natural gas-fired boiler identified as A1 (**a.k.a. Driox Boiler**), installed in 1978, **exhausting to Stack 001**, rated at 42 million British thermal units per hour (MMBtu/hr); ~~exhausting to Stack 001 with stack height 24 feet.~~
- (b) One (1) natural gas-fired boiler identified as A2 (**a.k.a. Low Pressure ("LP") Boiler**), installed in 1975, **exhausting to Stack 002**, rated at 5 million British thermal units per hour (MMBtu/hr); ~~exhausting to Stack 002 with stack height 24 feet.~~

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

### Revision 7

An incorrect rule cite has been removed from Section D.1.

#### SECTION D.1 EMISSIONS UNITS OPERATION CONDITIONS

Emission Limitations and Standards ~~{326 IAC 2-7-5(1)}~~

### Revision 8

The degreasing operation description at the beginning of Section D.2 has been revised to match the numbering used in Condition A.2 and the Technical Support Document.

#### SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

~~(A)~~(i) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (identified as two (2) soak and spray cold cleaner degreasers, A6 and A7).

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

#### Additional Technical Support Documentation: Source Definition

Praxair, Inc., Burns Harbor is not part of a combined source. The property is owned by Praxair. No other entity has a controlling interest. The Burns Harbor plant supplies oxygen and nitrogen in gaseous form to the Praxair pipeline network. The products are purchased by many customers located along the pipeline network. In addition, liquid nitrogen and argon are trucked off-site for delivery to customers locally and nationally.

**Appendix A: Emissions Calculations**

**Natural Gas Combustion Only**

**MM BTU/HR <100**

**Boiler A1 (42 MMBtu/hr), Boiler A2 (5 MMBtu/hr), and Process Heater A5 (26 MMBtu/hr)**

**Company Name: Praxair, Inc., Burns Harbor**  
**Address City IN Zip: 1224 North Boo Road, Chesteron, IN 46304**  
**Permit Number/Plt ID: 127-20999-00069**  
**Reviewer: Vickie Cordell**  
**Date: April 26, 2005**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

73.0

639.5

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.6	2.4	0.2	32.0	1.8	26.9

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations**

**Natural Gas Combustion Only**

**MM BTU/HR <100**

**Boiler A1 (42 MMBtu/hr), Boiler A2 (5 MMBtu/hr), and Process Heater A5 (26 MMBtu/hr)**

**HAPs Emissions**

**Company Name:** Praxair, Inc., Burns Harbor  
**Address City IN Zip:** 1224 North Boo Road, Chesteron, IN 46304  
**Permit Number/Plt ID:** 127-20999-00069  
**Reviewer:** Vickie Cordell  
**Date:** April 26, 2005

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	6.715E-04	3.837E-04	2.398E-02	5.755E-01	1.087E-03

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.599E-04	3.517E-04	4.476E-04	1.215E-04	6.715E-04

Methodology is the same as page 1.

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  
 External combustion, MM BTU/HR <100  
 Two (2) Regeneration Heaters, each 10.7 MMBtu/hr**

**Company Name:** Praxair, Inc., Burns Harbor  
**Address City IN Zip:** 1224 North Boo Road, Chesteron, IN 46304  
**Permit Number/Plt ID:** 127-20999-00069  
**Reviewer:** Vickie Cordell  
**Date:** April 26, 2005

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

21.4

187.5

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.2	0.7	0.1	9.4	0.5	7.9

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 4 for HAPs emissions calculations.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**  
**Boilers A1 (42 MMBtu/hr) and A2 (5 MMBtu/hr)**  
**HAPs Emissions**

**Company Name:** Praxair, Inc., Burns Harbor  
**Address City IN Zip:** 1224 North Boo Road, Chesteron, IN 46304  
**Permit Number/Plt ID:** 127-20999-00069  
**Reviewer:** Vickie Cordell  
**Date:** April 26, 2005

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.968E-04	1.125E-04	7.030E-03	1.687E-01	3.187E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	4.687E-05	1.031E-04	1.312E-04	3.562E-05	1.968E-04

Methodology is the same as page 3.

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**  
**Internal Combustion Engines - Diesel Fuel**  
**Diesel Engines (>600 HP)**  
**Emergency Generators A3 and A4, each 5.5 MMBtu/hr**

**Company Name:** Praxair, Inc., Burns Harbor  
**Address City IN Zip:** 1224 North Boo Road, Chesteron, IN 46304  
**Permit Number/Plt ID:** 127-20999-00069  
**Reviewer:** Vickie Cordell  
**Date:** August 9, 2005

**Emissions calculated based on heat input capacity (MMBtu/hr)**

Heat Input Capacity  
MM Btu/hr  
11.0

S= 0.5 = WEIGHT % SULFUR

Emission Factor in lb/MMBtu	Pollutant					
	PM*	PM10*	SO2 (1.01S)	NOx **see below	VOC	CO
	0.1	0.0573	0.5	3.2	0.1	0.85
(a) combined Potential to Emit, tons/yr	4.8	2.8	24.3	154.2	4.3	41.0
(b) combined PTE @ 500 hrs/yr per unit, tons/yr	0.28	0.16	1.39	8.80	0.25	2.34
(c) combined PTE @ 458 hrs/yr per unit, tons/yr	0.25	0.14	1.27	8.06	0.23	2.14
Increase in PTE @ 500 hrs/yr = [(b) - (c)], tons/yr	0.02	0.01	0.12	0.74	0.02	0.20

\* No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included.  
The PM10 emission factor is filterable and condensable PM10 combined.

\*\* NOx emissions: uncontrolled = 3.2 lb/MMBtu, controlled with ignition timing retard = 1.9 lb/MMBtu

Emission Factor in lb/MMBtu	Hazardous Air Pollutants (HAPs)						
	Benzene	Toluene	Xylenes	Propylene	Formaldehyde	Acetaldehyde	Total PAH*
	7.76E-04	2.81E-04	1.93E-04	2.79E-03	7.89E-05	2.52E-05	7.88E-06
Potential Emission in tons/yr	3.74E-02	1.35E-02	9.30E-03	1.34E-01	3.80E-03	1.21E-03	3.80E-04
PTE @ 500 hrs/yr, tons/yr	2.13E-03	7.73E-04	5.31E-04	7.67E-03	2.17E-04	6.93E-05	2.17E-05

HAPs with emission factors greater than 1E-05 are shown. Additional HAPs emission factors are available in AP-42, Chapter 3.4.

\* Polyaromatic hydrocarbons.

**Methodology**

Emission Factors are from AP 42 (Supplement B 10/96)Table 3.4-1 and Table 3.4-2

1 hp-hr = 7000 Btu, AP42 (Supplement B 10/96), Table 3.3-1, Footnote a.

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] \* 8760 hr/yr / (2,000 lb/ton)

PTE (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] \* 8760 hr/yr / (2,000 lb/ton)

PTE @ 500 hrs/yr (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] \* 500 hr/yr / (2,000 lb/ton)

**Appendix A: Emission Calculations****Wet Cooling Towers**

<b>Company Name:</b>	<b>Praxair, Inc., Burns Harbor</b>
<b>Address City IN Zip:</b>	<b>1224 North Boo Road, Chesteron, IN 46304</b>
<b>Permit Number/Plt ID:</b>	<b>127-20999-00069</b>
<b>Reviewer:</b>	Vickie Cordell
<b>Date:</b>	September 30, 2005

From Applicant:

Recirculation rate = 44,000 gallons per minute (total for both cooling towers)

Total Dissolved Solids in recirculation water = 2,500 mg/liter

From AP-42, Chapter 13 (1/95), Table 13.4-1, for induced draft cooling towers:

Total Liquid Drift = 0.02% of circulating water flow

Assumptions used for calculations:

TDS content in drift water is equal to TDS content of recirculation water.

All solids in drift are PM-10.

$$(44,000 \text{ gal water / min}) \times (60 \text{ min / hr}) \times (8.34 \text{ lbs / gal}) \times (0.0002 \text{ lb drift / lb water}) = 4,403.52 \text{ lbs drift water / hr}$$

$$(2,500 \text{ mg TDS / liter of water}) \times (1 \text{ liter water / } 10^6 \text{ mg water}) = 2,500 \text{ parts TDS / } 10^6 \text{ parts drift water}$$

$$(4,403.52 \text{ lbs drift water / hr}) \times (2,500 \text{ parts TDS / } 10^6 \text{ parts drift water}) = 11.0 \text{ lbs solids emitted / hr}$$

$$= \mathbf{11.0 \text{ lbs/hr PM-10}}$$

$$(11.0 \text{ lbs PM-10 / hr}) \times (8,760 \text{ hrs / yr}) \times (1 \text{ ton / } 2,000 \text{ lbs}) = \mathbf{48.2 \text{ tons/yr PM-10}}$$