



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: July 30, 2012

RE: American Iron Oxide Company / 147-32144-00050

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

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted 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, Suite N 501E, 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.dot12/03/07



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**Federally Enforceable State Operating Permit
OFFICE OF AIR QUALITY**

**American Iron Oxide Company
2001 E CR 700 North
Grandview, Indiana 47615**

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 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 also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions

Indiana statutes from IC 13 and rules from 326 IAC, quoted 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 FESOP under 326 IAC 2-8.

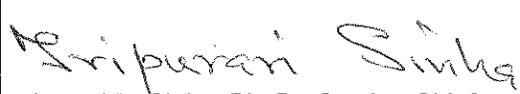
| | |
|---|--|
| Operation Permit No.: F147-32144-00050 | |
| Issued by:  Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality | Issuance Date: July 30, 2012 Expiration Date: July 30, 2017 |

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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 2-8-3(b)]

The Permittee owns and operates a stationary iron oxide and hydrochloric acid production.

| | |
|------------------------------|--|
| Source Address: | 2001 E CR 700 North, Grandview, Indiana 47615 |
| General Source Phone Number: | 219-763-1199 |
| SIC Code: | 2819 |
| County Location: | Spencer |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Federally Enforceable State Operating Permit Program Minor Source, under PSD Rules Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories |

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

(a) Process line no. 1, constructed in 1999:

- (1) One (1) hydrochloric acid production system with a maximum processing rate of 15 tons per hour of ferrous chloride solution. This system consists of one (1) natural gas-fired spray roaster, identified as R-1, utilizing a tangential firing method and low-NO_x burners, with a maximum heat input rate of 39.6 million British thermal units per hour; one (1) venturi separator/scrubber which controls particulate emissions; one (1) absorber; and two (2) packed tower scrubbers in series and a mist eliminator for HCl control. This system exhausts through a stack, identified as S-1.
- (2) Two (2) iron oxide storage bins, identified as O-1 and O-2, with a storage capacity of 100 tons, each, and a maximum throughput rate of 1.0 ton of iron oxide/nickel ferrite per hour, total, each attached to an individual baghouse for particulate control, and exhausting through individual stacks, identified as O-1 and O-2, respectively.

(b) Process line no. 2, constructed in 1999:

- (1) One (1) hydrochloric acid production system with a maximum processing rate of 15 tons per hour of ferrous chloride solution. This system consists of one (1) natural gas-fired spray roaster, identified as R-2, utilizing a tangential firing method and low-NO_x burners, with a maximum heat input rate of 39.6 million British thermal units per hour; one (1) venturi separator/scrubber which controls particulate emissions; one (1) absorber; and two (2) packed tower scrubbers in

series and a mist eliminator for HCl control. This system exhausts through a stack, identified as S-2.

- (2) Two (2) iron oxide storage bins, identified as O-3 and O-4, with a storage capacity of 100 tons, each, and a maximum throughput rate of 1.0 ton of iron oxide/nickel ferrite per hour, total, each attached to an individual baghouse for particulate control, and exhausting through individual stacks, identified as O-3 and O-4, respectively.
- (c) One (1) chlorination system, constructed in 2002, with a maximum chlorine usage of 900 pounds per hour. This system consists of one (1) chlorinator, identified as C-1, attached to a chlorination scrubber for HCl and chlorine emissions control, and exhausting through a stack, identified as C-1.
- (d) One (1) solvent extraction system, identified as TV-1, constructed in 1999, exhausting through a stack identified as TV-1. This system includes one (1) 40,000 gallon octanol storage tank, identified as T-17.
- (e) One (1) tank farm, identified as TS-1, each tank constructed in June 1998, consisting of fifteen (15) 50,000 gallon storage tanks for product hydrochloric acid, or ferrous chloride solution, identified as T-1 through T-9 and T-11 through T-16, and one (1) 35,000 gallon storage tank for virgin hydrochloric acid, identified as T-10. Each of these tanks is attached to a common fume scrubber to control vapor loss and exhaust to a common stack, identified as TS.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1(21).

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British thermal units per hour:

One (1) natural gas-fired boiler, identified as B-1, constructed in 2002, utilizing a normal firing method and ultra low-NO_x burners, with a maximum heat input rate of 8.0 million British thermal units per hour, and exhausting through a stack, identified as B-1.

- (b) Paved and unpaved roads and parking lots with public access.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

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 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

-
- (a) This permit, F147-32144-00050, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

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

B.5 Severability [326 IAC 2-8-4(4)]

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 2-8-4(5)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

-
- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of

requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:
- (1) it contains a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (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 no later than July 1 of each year to:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (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 2-8-4(3); and
- (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]

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

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

(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. The

PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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.12 Emergency Provisions [326 IAC 2-8-12]

- (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 2-8-12.
- (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:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Southwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

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

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

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

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (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 material of substantial economic value.

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

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

- (a) All terms and conditions of permits established prior to F147-29980-00050 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

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 2-8-3(h) and 326 IAC 2-8-9.

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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 2-8-8(a)]
- (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 2-8-8(b)]

- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(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 2-8-8(c)]

B.16 Permit Renewal [326 IAC 2-8-3(h)]

- (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 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (c) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

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

and

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

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

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to

326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(1) and (c).

- (b) Emission Trades [326 IAC 2-8-15(b)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(b).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]
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 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.19 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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 FESOP 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 the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, 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.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than 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) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

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

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

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

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

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

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

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

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

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

C.6 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.7 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.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

- (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

Testing Requirements [326 IAC 2-8-4(3)]

C.9 Performance Testing [326 IAC 3-6]

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

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

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

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

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

Indianapolis, Indiana 46204-2251

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

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

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

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

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.13 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

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

C.14 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

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

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

- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;

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

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

- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.16 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (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. Support information includes the following:
 - (AA) All calibration and maintenance records.
 - (BB) All original strip chart recordings for continuous monitoring instrumentation.
 - (CC) Copies of all reports required by the FESOP.Records of required monitoring information include the following:
 - (AA) The date, place, as defined in this permit, and time of sampling or measurements.
 - (BB) The dates analyses were performed.
 - (CC) The company or entity that performed the analyses.

- (DD) The analytical techniques or methods used.
- (EE) The results of such analyses.
- (FF) The operating conditions as existing at the time of sampling or measurement.

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

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

C.17 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, 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.

Stratospheric Ozone Protection

C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Process line no. 1, constructed in 1999:
 - (1) One (1) hydrochloric acid production system with a maximum processing rate of 15 tons per hour of ferrous chloride solution. This system consists of one (1) natural gas-fired spray roaster, identified as R-1, utilizing a tangential firing method and low-NO_x burners, with a maximum heat input rate of 39.6 million British thermal units per hour; one (1) venturi separator/scrubber which controls particulate emissions; one (1) absorber; and two (2) packed tower scrubbers in series and a mist eliminator for HCl control. This system exhausts through a stack, identified as S-1.
 - (2) Two (2) iron oxide storage bins, identified as O-1 and O-2, with a storage capacity of 100 tons, each, and a maximum throughput rate of 1.0 ton of iron oxide/nickel ferrite per hour, total, each attached to an individual baghouse for particulate control, and exhausting through individual stacks, identified as O-1 and O-2, respectively.
- (b) Process line no. 2, constructed in 1999:
 - (1) One (1) hydrochloric acid production system with a maximum processing rate of 15 tons per hour of ferrous chloride solution. This system consists of one (1) natural gas-fired spray roaster, identified as R-2, utilizing a tangential firing method and low-NO_x burners, with a maximum heat input rate of 39.6 million British thermal units per hour; one (1) venturi separator/scrubber which controls particulate emissions; one (1) absorber; and two (2) packed tower scrubbers in series and a mist eliminator for HCl control. This system exhausts through a stack, identified as S-2.
 - (2) Two (2) iron oxide storage bins, identified as O-3 and O-4, with a storage capacity of 100 tons, each, and a maximum throughput rate of 1.0 ton of iron oxide/nickel ferrite per hour, total, each attached to an individual baghouse for particulate control, and exhausting through individual stacks, identified as O-3 and O-4, respectively.
- (c) One (1) chlorination system, constructed in 2002, with a maximum chlorine usage of 900 pounds per hour. This system consists of one (1) chlorinator, identified as C-1, attached to a chlorination scrubber for HCl and chlorine emissions control, and exhausting through a stack, identified as C-1.
- (d) One (1) solvent extraction system, identified as TV-1, constructed in 1999, exhausting through a stack identified as TV-1. This system includes one (1) 40,000 gallon octanol storage tank, identified as T-17.
- (e) One (1) tank farm, identified as TS-1, each tank constructed in June 1998, consisting of fifteen (15) 50,000 gallon storage tanks for product hydrochloric acid, or ferrous

chloride solution, identified as T-1 through T-9 and T-11 through T-16, and one (1) 35,000 gallon storage tank for virgin hydrochloric acid, identified as T-10. Each of these tanks is attached to a common fume scrubber to control vapor loss and exhaust to a common stack, identified as TS.

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

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

D.1.1 Prevention of Significant Deterioration (PSD) Minor Limits and FESOP limits [326 IAC 2-2] [326 IAC 2-8] [326 IAC 6-3-2]

The permittee shall comply with the following:

- (a) The PM, PM₁₀ and PM_{2.5} emissions from the two (2) hydrochloric acid production systems exhaust stack shall be less than 17.1 pounds per hour, each.
- (b) The PM, PM₁₀ and PM_{2.5} emissions from the four (4) iron oxide storage bins, identified as O-1 through O-4 shall be less than 4.0 pounds per hour, each.

Compliance with the above limits in combination with the potential PM, PM₁₀ and PM_{2.5} emissions from other emission units, will limit the sourcewide PM, PM₁₀ and PM_{2.5}, emissions to less than 100 tons per year, each and render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70) not applicable to this source.

Note: The PSD Minor limits will satisfy the requirements of 326 IAC 6-3-2.

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan (PMP) is required for this unit and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.3 Particulate Control [326 IAC 2-7-6(1)]

- (a) In order to comply with Conditions D.1.1, the venturi scrubber and baghouses shall be in operation at all times when the iron oxide and hydrochloric acid production plant are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.4 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the process line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouses pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.1.5 Testing Requirements [326 IAC 2-1.1-11]

- (a) In order to determine compliance with Condition D.1.1(a), the Permittee shall perform PM, PM₁₀ and PM_{2.5} testing on packed tower and venturi scrubbers controlling the hydrochloric acid production plant, identified as R-1 or hydrochloric acid production plant, identified as R-2, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.
- (b) In order to determine compliance with Condition D.1.1(b), the Permittee shall perform PM, PM₁₀ and PM_{2.5} testing on baghouses controlling the four (4) iron oxide storage bins, identified as O-1, O-2, O-3 and O-4, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

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

D.1.6 Visible Emissions Notations

- (a) Visible emission notations of the hydrochloric acid production system and iron oxide storage bin stack exhausts (stack S-1, S-2, O-1, O-2, O-3 and O-4) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part

of the operation that would normally be expected to cause the greatest emissions.

- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.

D.1.7 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across each baghouse for the iron oxide storage bins shall be measured by a Pressure Differential Switch/ Pressure Gauge that gives the Permittee the capability to indicate both low-end and high-end set points and connects to a Programmable Logic Controller and an alarm system. The Permittee shall record the time and pressure drop across each baghouse for every instance that the alarm sounds. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.
- (b) The instrument used for determining the pressure 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.

D.1.8 Scrubbers Parametric Monitoring

- (a) The Permittee shall monitor the packed tower and venturi scrubber's makeup liquid flow rate for each of the packed tower and venturi scrubbers once per day when the hydrochloric acid production systems are in operation. When for any one reading, the flow rate is less than the normal minimum established during the latest stack test, the Permittee shall take reasonable response steps. A flow rate reading that is below the normal minimum is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.
- (b) The pressure drop across each of the packed tower and venturi scrubbers shall be measured by a Pressure Differential Switch/Pressure Gauge that gives the Permittee the capability to indicate both low-end and high-end set points and connects to a Programmable Logic Controller and an alarm system. The Permittee shall record the time and pressure drop across each scrubber for every instance that the alarm sounds. When for any one reading, the pressure drop across the scrubber is outside the normal range of 12 to 20 inches, or the normal range established during the latest stack test, the Permittee shall take reasonable response steps. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C - Response to

Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

The instrument used for determining the pressure 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.

D.1.9 Scrubbers Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that scrubber failure has been observed, the failed scrubber and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

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

D.1.10 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.6 - Visible Emission Notation, the Permittee shall maintain a daily record of visible emission notations from the iron oxide storage bins stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.1.7 - Baghouse Parametric Monitoring, the Permittee shall maintain a daily record of the pressure drop across the iron oxide storage bins baghouses controlling the processes when venting to the atmosphere during normal operation when the alarm sounds. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (c) To document compliance with Condition D.1.8 – Scrubbers Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop or flow rate reading across venturi scrubbers during normal operation when the alarm sounds. The Permittee shall include in its daily record when a pressure drop and flow rate reading are not taken and the reason for the lack of a pressure drop and flow rate readings, (e.g. the process did not operate that day).
- (f) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British thermal units per hour:

One (1) natural gas-fired boiler, identified as B-1, constructed in 2002, utilizing a normal firing method and ultra low-NO_x burners, with a maximum heat input rate of 8.0 million British thermal units per hour, and exhausting through a stack, identified as B-1.

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

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

D.2.1 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the insignificant boiler, identified as B-1 shall not exceed 0.6 pounds per million Btu heat input (lb/MMBtu).

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: American Iron Oxide Company
Source Address: 2001 E CR 700 North, Grandview, Indiana 47615
FESOP Permit No.: F147-32144-00050

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

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify) _____
- Report (specify) _____
- Notification (specify) _____
- Affidavit (specify) _____
- Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

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

COMPLIANCE AND ENFORCEMENT BRANCH

100 North Senate Avenue

MC 61-53 IGCN 1003

Indianapolis, Indiana 46204-2251

Phone: (317) 233-0178

Fax: (317) 233-6865

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)

EMERGENCY OCCURRENCE REPORT

Source Name: American Iron Oxide Company
Source Address: 2001 E CR 700 North, Grandview, Indiana 47615
FESOP Permit No.: F147-32144-00050

This form consists of 2 pages

Page 1 of 2

| |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16 |
|---|

If any of the following are not applicable, mark N/A

| |
|---|
| Facility/Equipment/Operation: |
| Control Equipment: |
| Permit Condition or Operation Limitation in Permit: |
| Description of the Emergency: |
| Describe the cause of the Emergency: |

If any of the following are not applicable, mark N/A

Page 2 of 2

| |
|---|
| Date/Time Emergency started: |
| Date/Time Emergency was corrected: |
| Was the facility being properly operated at the time of the emergency? Y N 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: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: American Iron Oxide Company
 Source Address: 2001 E CR 700 North, Grandview, Indiana 47615
 FESOP Permit No.: F147-32144-00050

Months: _____ to _____ Year: _____

| | |
|---|-------------------------------|
| <p>This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p> | |
| <input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD. | |
| <input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD | |
| Permit Requirement (specify permit condition #) | |
| Date of Deviation: | Duration of Deviation: |
| Number of Deviations: | |
| Probable Cause of Deviation: | |
| Response Steps Taken: | |
| Permit Requirement (specify permit condition #) | |
| Date of Deviation: | Duration of Deviation: |
| Number of Deviations: | |
| Probable Cause of Deviation: | |
| Response Steps Taken: | |

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

**Addendum to the Technical Support Document (ATSD) for a Federally
Enforceable State Operating Permit (FESOP)**

Source Description and Location

| | |
|----------------------------|---|
| Source Name: | American Iron Oxide Company |
| Source Location: | 2001 E CR 700 North, Grandview, IN 47615 |
| County: | Spencer |
| SIC Code: | 2819 |
| Permit Renewal No.: | F147-32144-00050 |
| Permit Reviewer: | Josiah Balogun |

Public Notice Information

On June 21, 2012, the Office of Air Quality (OAQ) had a notice published in the Journal Democrat in Rockport, Indiana, stating that American Iron Oxide Company had applied for a transition from a Part 70 Operating Permit (TITLE V) to a Federally Enforceable State Operating Permit (FESOP) and continue to operate a iron oxide and hydrochloric acid production. The notice also stated that OAQ proposed to issue a Federally Enforceable State Operating Permit (FESOP) permit for this operation and provided information on how the public could review the proposed Federally Enforceable State Operating Permit (FESOP) 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 Federally Enforceable State Operating Permit (FESOP) permit should be issued as proposed.

No changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflects the permit that was on public notice. Changes that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result, ensuring that these types of concerns are documented and part of the record regarding this permit decision.

Changes to the Permit

Upon further review IDEM, OAQ has made the following changes to the FESOP permit F147-32144-00050. (deleted language appears as ~~strikeout~~ and the new language **bolded**):

Change 1: IDEM OAQ, erroneously used the old Title V permit number T147-29980-00050 for the Federally Enforceable State Operating Permit (FESOP) permit. A new Federally Enforceable State Operating Permit (FESOP) number 147-32144-00050 has been created for the permit and the number has been changed throughout the permit accordingly.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit
Transitioning to a Federally Enforceable State Operating Permit (FESOP)

| |
|--|
| Source Background and Description |
|--|

| | |
|----------------------------|---|
| Source Name: | American Iron Oxide Company |
| Source Location: | 2001 E CR 700 North, Grandview, IN 47615 |
| County: | Spencer |
| SIC Code: | 2819 |
| Permit Renewal No.: | F147-29980-00050 |
| Permit Reviewer: | Josiah Balogun |

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from American Iron Oxide Company relating to the operation of an iron oxide and hydrochloric acid production. On December 7, 2010, American Iron Oxide Company submitted an application to the OAQ requesting to renew its Part 70 operating permit. American Iron Oxide Company was issued its first Part 70 Operating Permit T147-16252-00050 on September 5, 2006.

History

On March 6, 2012, American Iron Oxide Company submitted comments to the published Title V permit for American Iron Oxide Company (AMROX) to the OAQ requesting a transition from TV operating permit to a FESOP operating permit. American Iron Oxide Company was issued a Part 70 Operating Permit on September 5, 2006. Based on the November 28, 2006 Consent Decree between AMROX and the United States Environmental Protection Agency Region 5 (USEPA), the "major" or "minor" source status for the Grandview facility was to be determined based on stack test to be performed no later than September 30, 2006.

A stack test was performed on June 28, 2006, and the results were submitted to IDEM and USEPA. The average emission results for HCl and Cl₂ were 19 ppm and 17 ppm respectively. These emission rates translate to 3.4 tons of HCl and 5.9 tons of Cl per year. The result demonstrated that AMROX's Grandview facility was not and had never been a "major" source of HAPs and therefore not required to operate under a Title V permit and therefore not subject to NESHAP Subpart CCC.

On October 6, 2006 AMROX filed a Petition for Administrative Review of the issuance of operating permit T147-16252-00050 and specifically requested the rescission of the issued Title V permit with the replacement of an appropriate "minor" source permit. The Petition for Administrative Review also identified specific deficiencies contained within the permit.

The scrubbers at American Iron Oxide Company were evaluated by IDEM as an integral to the process. The true PTE of the source with the inclusion of the scrubbers as integral to the process means that American Iron Oxide Company is an area source of HAP since the single HAP is less than 10 tons per year and total PTE of HAP is less than 25 tons per year.

Source Definition

This Source Definition from the Part 70 Operating Permit Renewal was incorporated into this permit as follows:

American Iron Oxide Company (AMROX) operates an iron oxide and hydrochloric acid production plant next to the AK Steel plant. AMROX and AK Steel have a contractual relationship to address the ferrous chloride generated by AK Steel. The AMROX plant takes in all of the steel plant's ferrous chloride. IDEM, OAQ has examined whether these two plants are part of the same major source. The term "major source" is defined at 326 IAC 2-7-1(22). In order for the two plants to be considered one major source they must meet all three of the following criteria:

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

The plants are owned by different companies. AMROX is a joint venture partnership between International Steel Services Inc. and Marubeni Corporation. AK Steel is not a partner and owns no shares in AMROX or in any of the companies that form the AMROX joint venture partnership. Therefore no common ownership exists.

IDEM's Nonrule Policy Document Air-005 sets out two independent tests to determine if common control exists. The first test, the auxiliary activity test, determines whether one source performs an auxiliary activity which directly serves the purpose of a primary activity and whether the owner or operator of the primary activity has a major role in the day-to-day operations of the auxiliary activity. An auxiliary activity directly serves the purpose of a primary activity by supplying a necessary raw material to the primary activity or performing an integral part of the production process for the primary activity.

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

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

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

The AK Steel plant produces ferrous chloride during the production of steel. AK Steel must properly dispose of the ferrous chloride as part of its manufacturing process. The AK Steel plant sends 100% of its ferrous chloride to AMROX through a dedicated pipeline. AMROX's acceptance of this by-product directly serves AK Steel's primary activity of making steel. AMROX converts the ferrous chloride into iron oxide and hydrochloric acid. The AMROX plant returns the hydrochloric acid it generates to the AK Steel plant. For every gallon of ferrous chloride that it receives from AK Steel, AMROX returns a gallon of hydrochloric acid to AK Steel. AK Steel uses the hydrochloric acid in its production process. AMROX sells the iron oxide produced on the open market.

AMROX's output, its work, is taking ferrous chloride from steel mills and converting it into hydrochloric acid and iron oxide. A majority of the AMROX plant's work was done for the AK Steel plant up until July 2011. From January through August 2011, the AMROX plant developed

additional customers and experienced increased shipments of ferrous chloride from other existing customers. This trend continued steadily to the point that the ferrous chloride from the AK Steel plant fell below 45% of the total amount of ferrous chloride the AMROX plant received, in both July and August 2011. During the same time period, AMROX's return of hydrochloric acid to AK Steel also decreased, falling below 45% of its total amount of hydrochloric acid shipped in July and August 2011.

AMROX also states that it contracts to provide its services to other steel mills without AK Steel's consent, that AK Steel cannot assume control of AMROX under any circumstance and that AMROX is not required to submit any periodic reports to AK Steel. IDEM finds that the AMROX plant performs an auxiliary activity for the AK Steel plant by taking its ferrous chloride, and that this removal of ferrous chloride is an integral part of the steel production process. However, since the AMROX plant does not provide a majority of its output to the AK Steel plant, and there are no other indications that AK Steel can exercise control over the AMROX plant, IDEM finds that the AK Steel plant does not have a major role in the day to day operation of the AMROX plant. Therefore the first common control test is not met.

The second common control test in the nonrule policy is the but/for test. This test focuses on whether the auxiliary activity would exist absent the needs of the primary activity. If all or a majority of the output of the auxiliary activity is consumed by the primary activity the but/for test is satisfied. If the AK Steel plant were to close, the AMROX plant would lose less than 45% of its work. The AMROX plant would still have a majority of its current customer base. AMROX has shown that it is economical for it to bring ferrous chloride to its plant from other steel mills, even with increased transportation costs. Therefore the second common control test is also not met. IDEM finds that the AMROX plant and the AK Steel plant are not under common control. Therefore, the first element of the major source definition is not met.

The next element of the major source definition is whether the two sources have the same two-digit SIC Code or is one serves as a support facility for the other. The SIC Code Manual of 1987 sets out how to determine the proper SIC Code for each type of industry. The principal product of each plant usually determines its SIC Code. The AMROX plant's principal products are two chemicals, iron oxide and hydrochloric acid. It has the two-digit SIC Code of 28 for the major group Chemicals and Allied Products. The AK Steel plant has the two-digit SIC Code 33, for the major group Primary Metal Industries. The two plants do not have the same two-digit SIC Code.

A plant is considered a support facility if at least 50% of its output is dedicated to the other plant. The AMROX plant provides less than 50% of its work, processing ferrous chloride into iron oxide and hydrochloric acid, to the AK Steel plant. AMROX is a not support facility to the AK Steel plant. Therefore, the second element of the major source definition is not met.

The two plants are located next to each other on contiguous properties, with direct physical connections through dedicated pipelines. Since the two plants are on contiguous properties they meet the third element of the major source definition. The two plants do not meet all three of the elements of the major source definition and IDEM, OAQ finds that AMROX and AK Steel are not part of the same major source.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

- (a) Process line no. 1, constructed in 1999:
 - (1) One (1) hydrochloric acid production system with a maximum processing rate of 15 tons per hour of ferrous chloride solution. This system consists of one (1) natural gas-fired spray roaster, identified as R-1, utilizing a tangential firing method and low-NO_x burners, with a maximum heat input rate of 39.6 million

- British thermal units per hour; one (1) venturi separator/scrubber which controls particulate emissions; one (1) absorber; and two (2) packed tower scrubbers in series and a mist eliminator for HCl control. This system exhausts through a stack, identified as S-1.
- (2) Two (2) iron oxide storage bins, identified as O-1 and O-2, with a storage capacity of 100 tons, each, and a maximum throughput rate of 1.0 ton of iron oxide/nickel ferrite per hour, total, each attached to an individual baghouse for particulate control, and exhausting through individual stacks, identified as O-1 and O-2, respectively.
- (b) Process line no. 2, constructed in 1999:
- (1) One (1) hydrochloric acid production system with a maximum processing rate of 15 tons per hour of ferrous chloride solution. This system consists of one (1) natural gas-fired spray roaster, identified as R-2, utilizing a tangential firing method and low-NO_x burners, with a maximum heat input rate of 39.6 million British thermal units per hour; one (1) venturi separator/scrubber which controls particulate emissions; one (1) absorber; and two (2) packed tower scrubbers in series and a mist eliminator for HCl control. This system exhausts through a stack, identified as S-2.
- (2) Two (2) iron oxide storage bins, identified as O-3 and O-4, with a storage capacity of 100 tons, each, and a maximum throughput rate of 1.0 ton of iron oxide/nickel ferrite per hour, total, each attached to an individual baghouse for particulate control, and exhausting through individual stacks, identified as O-3 and O-4, respectively.
- (c) One (1) chlorination system, constructed in 2002, with a maximum chlorine usage of 900 pounds per hour. This system consists of one (1) chlorinator, identified as C-1, attached to a chlorination scrubber for HCl and chlorine emissions control, and exhausting through a stack, identified as C-1.
- (d) One (1) solvent extraction system, identified as TV-1, constructed in 1999, exhausting through a stack identified as TV-1. This system includes one (1) 40,000 gallon octanol storage tank, identified as T-17.
- (e) One (1) tank farm, identified as TS-1, each tank constructed in June 1998, consisting of fifteen (15) 50,000 gallon storage tanks for product hydrochloric acid, or ferrous chloride solution, identified as T-1 through T-9 and T-11 through T-16, and one (1) 35,000 gallon storage tank for virgin hydrochloric acid, identified as T-10. Each of these tanks is attached to a common fume scrubber to control vapor loss and exhaust to a common stack, identified as TS.

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

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

Emission Units and Pollution Control Equipment Removed From the Source

No equipment has been removed from this facility 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) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British thermal units per hour:

One (1) natural gas-fired boiler, identified as B-1, constructed in 2002, utilizing a normal firing method and ultra low-NO_x burners, with a maximum heat input rate of 8.0 million British thermal units per hour, and exhausting through a stack, identified as B-1.

- (b) Paved and unpaved roads and parking lots with public access.

Existing Approvals

Since the issuance of the Part 70 Operating Permit 147-16252-00050 on September 5, 2006, the source has not been granted any other approval.

Air Pollution Control Justification as an Integral Part of the Process

The applicant has submitted the following justification such that the air pollution control equipment, i.e. scrubbers be considered as an integral part of the spray roasters:

American Iron Oxide Company (AMROX) is located at the address of 2001 East County Road 700 North, Grandview Indiana, Spencer County. The facility consists of two (2) process lines. Each line consists of one (1) hydrochloric acid production system with a combined processing capacity of 42 million gallons of ferrous chloride solution per year. This system consists of one (1) natural gas-fired spray roaster that utilizes tangential firing low-NO_x burners. The maximum heat input is 39.6 million British thermal units per hour. The facility is equipped with one (1) venturi separator/scrubber, one (1) absorber and two (2) packed tower collector scrubbers operated in series. This description does not include the additional facilities and equipment located at the site in support of the operations.

As a brief process overview, the exhaust gas from the roaster enters the venturi, flowing through the annulus and then through the cyclonic separator. The gas temperature is typically between 670 and 720 degrees F. Ferrous chloride (FeCl₂) is fed to the venturi to concentrate the FeCl₂ prior to combustion and to quench and remove particulate from the acid gas exhaust stream. The exhaust gas flows through the packed bed absorber and then next through the two packed bed scrubbers. Fresh water is introduced into Scrubber #2 with the overflow from Scrubber #2 serving as the make-up water to the sump of Scrubber #1 which provides the liquid flow to the absorber. The liquid flow exiting the absorber is HCl finished product that AMROX sells to its customers. As you can see, the liquid flow is counter current of the gas flow maximizing HCl capture for incorporation into the final product. I have attached a process schematic for your review.

These collector scrubbers are an integral part of our total operation and capture a significant amount of HCl that is incorporated into the finished product. If the scrubbers were not a part of the process a significant amount HCl that would have otherwise been captured would be emitted into the atmosphere. Every pound of HCL captured in our process is directly proportionate to the amount of HCl that would be otherwise purchased had the acid not been produced, captured and incorporated in the final product to satisfy the total customers requirements.

HCl is provided to our customers based on 100% contractual supply agreements. Meaning, AMROX is contractual bound to provide 100% of the customer's HCl requirements. If AMROX

did not supply the material then the material would have to be purchased on the market and supplied to the customer.

The scrubbers do have a positive effect on total plant emissions but primarily function to capture HCl for incorporation into our finished product. The scrubbers do not operate independent of the operation. In fact, the scrubbers are interlocked with the operations therefore the roaster cannot operate without the scrubbers being on-line.

Based on the current operation it is anticipated that 185 pounds of HCl is captured by the two scrubbers. This would equate to 584 pounds per hour of 32% concentration HCl--on an annual basis 2,558 tons. In recent history, 32% HCl ranges in price from \$100 to \$150 per ton. Using \$125 per ton as an average market value for the HCl, Grandview scrubbers produce HCl with a market value of \$320,000 annually.

The following table captures cost estimates for the purchase and installation of two (2) scrubbers.

Equipment Cost (Scrubbers):

| | Pricing | Quantity | Total Cost |
|--------------------------|----------------|-----------------|-------------------|
| Scrubbers (each) | \$50,000 | 2 | \$100,000 |
| Pumps (each) | \$850 | 4 | \$34,000 |
| Piping & Controls (each) | \$20,000 | 2 | \$40,000 |
| Foundations (each) | \$10,000 | 2 | \$20,000 |
| Installation | \$20,000 | 1 | <u>\$20,000</u> |
| | | | \$214,000 |

As you can see the scrubbers provide an efficient and cost effective method of capturing HCl making them an integral part of our operations in support of our contractual obligation to our customers.

IDEM, OAQ has evaluated the justifications and agreed that the scrubbers will be considered as an integral part of the two (2) hydrochloric acid production systems. Therefore, the permitting level will be determined using the potential to emit after the scrubbers. Operating conditions in the proposed permit will specify that these scrubbers shall operate at all times when the two (2) hydrochloric acid production systems are in operation.

| |
|--------------------------|
| Enforcement Issue |
|--------------------------|

IDEM is aware that the process line No. 1 is not in compliance with the following emission limitation:

Notice of Violation, Case No. 2002-11216-A

- (1) Pursuant to Condition D.1.1 of CP 147-9798-00050, issued on December 30, 1998, chlorine emissions from process line No. 1 shall be limited to 0.31 pound per hour. Based on a stack test conducted on April 10 and 11, 2001, the measured chlorine emission rate was 2.74 pounds per hour.
- (2) Pursuant to Condition D.1.7 of CP 147-9798-00050, issued on December 30, 1998, nitrogen oxides (NO_x) emissions from the roaster at process line No. 1 shall be limited to 0.08 pound per million British thermal units. Based on a stack test conducted on April 10 and 11, 2001, the measured NO_x emission rate was 0.13 pound per million British thermal units.
- (3) Pursuant to 326 IAC 2-7-3, no Part 70 source may operate after that time that it is required to submit a timely and complete application, except in compliance with a Part 70 permit issued under that rule. A source can continue to operate

without being in violation of this rule if it submits a timely and complete application. This source operated without submitting a timely and complete Part 70 permit application, a violation of 326 IAC 2-7-3.

- (4) Pursuant to 326 IAC 2-7-4, a timely Part 70 application is one that is received within twelve (12) months after the source becomes subject to the Part 70 permit program. For applicable sources in existence on December 14, 1995, the deadline is December 13, 1996. For other sources, the deadline is twelve (12) months from the date the source first meets an applicability criterion of section 2 of 326 IAC 2-7. This source failed to submit a timely application, a violation of 326 IAC 2-7-4.

Upon the conclusion of enforcement, IDEM will reopen this permit to include any compliance schedule developed in the resolution of the litigation.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Spencer County.

| Pollutant | Designation |
|--|--|
| SO ₂ | Better than national standards. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| O ₃ | Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹ |
| PM ₁₀ | Unclassifiable effective November 15, 1990. |
| NO ₂ | Cannot be classified or better than national standards. |
| PM _{2.5} | Attainment effective November 2, 2011, for the annual PM _{2.5} standard for the Evansville area, including Ohio Township of Spencer County. |
| Pb | Not designated. |
| ¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. | |

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Spencer County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM_{2.5}**
 Spencer County has been classified as attainment for PM_{2.5}. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM_{2.5} significant level at ten (10) tons per year. This rule became effective, June 28, 2011.. Therefore, direct PM_{2.5} and SO₂ emissions were reviewed pursuant to the requirements for

Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

- (c) Other Criteria Pollutants
 Spencer County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this source is classified as an iron oxide and hydrochloric acid production source, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

| Unrestricted Potential Emissions | |
|----------------------------------|-----------|
| Pollutant | Tons/year |
| PM | 620.94 |
| PM ₁₀ | 617.80 |
| PM _{2.5} | 617.80 |
| SO ₂ | 0.20 |
| VOC | 2.20 |
| CO | 32.10 |
| NO _x | 38.10 |
| GHGs as CO ₂ e | 46,110.00 |
| Single HAP | < 10 |
| Total HAP | < 25 |

| HAPs | tons/year |
|-------------------|--------------|
| Hydrochloric Acid | 5.26 |
| Chlorine | 5.9 |
| Chromium | 8.02 |
| Nickel | 0.224 |
| Total | less than 25 |

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

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM₁₀ and PM_{2.5} is equal to or greater than 100 tons per year. However, the Permittee has agreed to limit the source's PM₁₀ and PM_{2.5} emissions to less than Title V levels, therefore the Permittee will be issued a FESOP Renewal.

- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year.
- (d) 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 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.

Actual Emissions

The following table shows the actual emissions as reported by the source. This information reflects the 2010 OAQ emission data.

| Pollutant | Actual Emissions (tons/year) |
|-------------------|------------------------------|
| PM | --- |
| PM ₁₀ | 2 |
| PM _{2.5} | 1 |
| SO ₂ | 0 |
| VOC | 1 |
| CO | 3 |
| NO _x | 10 |
| Ammonia | --- |
| lead | 0 |

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

| Process/ Emission Unit | Potential To Emit of the Entire Source After Issuance of Renewal (tons/year) | | | | | | | | | |
|-----------------------------------|--|-------------------------------|---------------------------------|-----------------|-----|------|-----------------|---------------------------|------------|------------------|
| | PM | PM ₁₀ [*] | PM _{2.5} ^{**} | SO ₂ | VOC | CO | NO _x | GHGs as CO ₂ e | Total HAPs | Worst Single HAP |
| Roaster R-1 | 75 | 75 | 75 | 0 | 0 | 0 | 0 | 0 | 19.4 | 8.02 |
| Roaster R-2 | | | | 0 | 0 | 0 | 0 | 0 | | |
| Burner emissions for Roaster R-1 | 0.3 | 1.3 | 1.3 | 0.1 | 1 | 14.6 | 17.3 | 20,940 | 0.33 | 0.33 |
| Burner emissions for Roaster R-2 | 0.3 | 1.3 | 1.3 | 0.1 | 1 | 14.6 | 17.3 | 20,940 | 0.33 | 0.33 |
| Iron Oxide Bins (O-1 through O-4) | 17.5 | 17.5 | 17.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Process/ Emission Unit | Potential To Emit of the Entire Source After Issuance of Renewal (tons/year) | | | | | | | | | |
|--|--|--------------------|----------------------|-----------------|------------|--------------|--------------|---------------------------------|----------------|------------------------|
| | PM | PM ₁₀ * | PM _{2.5} ** | SO ₂ | VOC | CO | NOx | GHGs as CO ₂ e | Total HAPs | Worst Single HAP |
| Boiler (B-1) | 0.1 | 0.3 | 0.3 | 0 | 0.2 | 2.9 | 3.5 | 4,230 | 0.07 | 0.07 |
| Chlorination System | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | neg | neg |
| Tank Farm (TS-1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Unpaved Road | 6.74 | 1.4 | 1.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total PTE of Entire Source | 99.94 | 96.80 | 96.80 | 0.2 | 2.2 | 32.10 | 38.10 | 46,110 | < 25 | < 10 |
| Title V Major Source Thresholds | NA | 100 | 100 | 100 | 100 | 100 | 100 | 100,000 CO ₂ e | 25 | 10 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 100,000 CO ₂ e | NA | NA |
| negl. = negligible *Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". **PM _{2.5} listed is direct PM _{2.5} . | | | | | | | | | | |

This existing stationary source is not major for PSD because the potential to emit all regulated pollutants from the entire source are limited to less than the Title V major source threshold levels, emissions of GHGs are less than one hundred thousand (<100,000) tons of CO₂ equivalent emissions (CO₂e) per year, and it is in one of the twenty-eight (28) listed source categories. In addition, this existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs is limited to less than ten (10) tons per year for a single HAP and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).

| |
|-----------------------------------|
| Federal Rule Applicability |
|-----------------------------------|

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.
- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (c) The one (1) boiler, rated at 8.0 million British thermal units per hour is not subject to the New Source Performance Standards, 326 IAC 12, 40 CFR 60.40, 40 CFR 60.40a, 40 CFR 60.40b and 40 CFR 60.40c, Subparts D, Da, Db and Dc, because it was installed after June 9, 1989, and has a capacity less than 10 million British thermal units per hour.
- (d) The storage tanks at this source were all constructed in 1998 and 1999 and do not contain volatile organic liquids. Therefore, the requirements of the NSPS for 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, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) are not applicable.

- (e) This source is not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants (40 CFR Part 63, Subpart CCC), which is incorporated by reference as 326 IAC 20-29. The provisions of this subpart are not applicable to these facilities because the source is an area sources for hazardous air pollutants (HAP).

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration(PSD))

This existing source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit PM, PM₁₀ and PM_{2.5} are limited to less than 100 tons per year, the potential to emit all other attainment regulated pollutants are less than 100 tons per year, the potential to emit greenhouse gases (GHGs) is less than the one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year, and this source is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply to this source.

The emission units, (waste pickle liquor processing and the iron oxide/nickel ferrite) constructed in 1999 have uncontrolled PM, PM₁₀ and PM_{2.5} emissions of greater than 100 tons per year, each. Pursuant to the Part 70 Operating Permit No.147-16252-00050, issued on September 5, 2006, and revised by this permit number F147-29980-00050, the PM, PM₁₀ and PM_{2.5} emissions from the emission units, shall be limited to less than 100 tons per year:

- (a) The PM, PM₁₀ and PM_{2.5} emissions from the two (2) hydrochloric acid production systems exhaust stack shall be less than 17.1 pounds per hour, each.
- (b) The PM, PM₁₀ and PM_{2.5} emissions from the four (4) iron oxide storage bins, identified as O-1 through O-4 shall be less than 4.0 pounds per hour, each.

Compliance with the above limits in combination with the potential PM, PM₁₀ and PM_{2.5} emissions from other emission units, will limit the sourcewide PM, PM₁₀ and PM_{2.5}, emissions to less than 100 tons per year, each and render the requirements of 326 IAC 2-2 (PSD) not applicable to this source.

326 IAC 2-8-4 (FESOP)

Since the unrestricted potential to emit of PM, PM₁₀, and PM_{2.5} are greater than one hundred (100) tons per year, each. The PM, PM₁₀, PM_{2.5} limits established in 326 IAC 2-2 (PSD) will also satisfy requirements for FESOP requirements. Therefore, the requirements of 326 IAC 2-7 (Part 70), do not apply.

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting) because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70); it is not located in Lake, Porter, or LaPorte County, and its potential to emit lead is less than 5 tons per year. Therefore, this rule does not apply.

326 IAC 5-1 (Opacity Limitations)

This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1)

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

This rule requires the source 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).

State Rule Applicability – Individual Facilities

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission Limitations for facilities specified in 326 IAC 6-2-1(d)), the PM emissions from the insignificant boiler, identified as B-1 shall not exceed 0.6 pounds per million Btu heat input (lb/MMBtu). This limitation was calculated using the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} = 0.635 \text{ lbs/MMBtu}$$

Where:

Q = total source heat input capacity (MMBtu/hr).
For these units, Q = 8.0 MMBtu/hr.

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 million British thermal units per hour, Pt shall not exceed 0.6 lbs/MMBtu.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) from the iron oxide and hydrochloric acid production system shall not exceed the following PM limits as specified below. The pound per hour limitation was calculated with the following equation:

- (a) Pursuant to 326 IAC 6-3-2, the particulate from the hydrochloric acid production system at Process line no. 1 shall not exceed 25.2 pounds per hour when operating at a process weight rate of 15 tons per hour.
- (b) Pursuant to 326 IAC 6-3-2, the particulate from the hydrochloric acid production system at Process line no. 2 shall not exceed 25.2 pounds per hour when operating at a process weight rate of 15 tons per hour.
- (c) Pursuant to 326 IAC 6-3-2, the particulate from each of the two (2) iron oxide storage bins at Process line no. 1 shall not exceed 4.10 pounds per hour when operating at a process weight rate of 1 ton per hour.
- (d) Pursuant to 326 IAC 6-3-2, the particulate from each of the two (2) iron oxide storage bins at Process line no. 2 shall not exceed 4.10 pounds per hour when operating at a process weight rate of 1 ton per hour.
- (e) All other manufacturing processes at this source have potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14), these processes are exempt from the requirements of 326 IAC 6-3.

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

$$E = 4.10 P^{0.67}$$

Where:

E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The venturi scrubbers and baghouse shall be in operation at all times the iron oxide and hydrochloric acid production system are in operation, in order to comply with this limit.

Complying with the requirements of 326 IAC 2-2 (PSD) will satisfy the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) for the hydrochloric acid production system at Process line no. 1, Process line no. 2 and the two (2) iron oxide storage bins.

326 IAC 7-1.1 Sulfur Dioxide Emission Limitations

These emission units are not subject to requirements of 326 IAC 326 IAC 7-1.1 because the SO₂ PTE or limited SO₂ PTE are less than 25 tons per year or 10 pounds per hour, each.

326 IAC 8-1-6 (New facilities; General reduction requirements)

The uncontrolled VOC emissions from these sources are less than 25 tons per year, each. Therefore, the requirements of 326 IAC 8-1-6 are not applicable to any of the emission unit at this source.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

(a) The compliance determination requirements applicable to this source are as follows:

| Emission Unit | Control Device | Pollutant | Frequency of Testing | Limit or Requirements |
|--|------------------------------------|--|-----------------------------|-------------------------------|
| Hydrochloric acid production system at Process line no. 1 or hydrochloric acid production system at Process line no. 2 | Venturi and Packed tower Scrubbers | PM, PM ₁₀ and PM _{2.5} | 5 years | 326 IAC 2-2 and 326 IAC 6-3-2 |
| one (1) of the four (4) iron oxide storage bins | Baghouse | PM, PM ₁₀ and PM _{2.5} | 5 years | 326 IAC 2-2 and 326 IAC 6-3-2 |

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

| Control | Parameter | Frequency | Range | Excursions and Exceedances |
|--|---------------------|-----------|--------------------|----------------------------|
| Iron oxide storage bins (Baghouse) | Water Pressure Drop | Daily | 1.0 to 10.0 inches | Response Steps |
| | Visible Emissions | | Normal-Abnormal | |
| Hydrochloric acid production systems (Venturi and Packed tower Scrubber) | Flow Rate | Daily | N/A | Response Steps |
| | Pressure Drop | | 12 to 20 inches | |
| Hydrochloric acid production system and iron oxide storage bin stack | Visible Emissions | Daily | N/A | Response Steps |

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit transisting to FESOP 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 application for the purposes of this review was received on December 7, 2010.

Conclusion

The operation of this an iron oxide and hydrochloric acid production shall be subject to the conditions of the attached FESOP Permit No. 147-29980-00050.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Josiah Balogun at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5257 or toll free at 1-800-451-6027 extension 4-5257.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emissions Calculations

Emission Summary

Source Name: American Iron Oxide Company

Source Location: 2001 E CR 700 North, Grandview, IN 47615

Permit Number: F147-32144-00050

Permit Reviewer: Josiah Balogun

Date: 6-May-2012

Uncontrolled Potential to Emit

| | PM (tons/yr) | PM₁₀ (tons/yr) | PM_{2.5} (tons/yr) | SO₂ (tons/yr) | VOC (tons/yr) | CO (tons/yr) | NOx (tons/yr) | GHGs as CO₂e (tons/yr) | HAPs (tons/yr) |
|---|-------------------------|--------------------------------------|---------------------------------------|-------------------------------------|--------------------------|-------------------------|--------------------------|--|--------------------------------------|
| Emission Unit | | | | | | | | | |
| Roaster R-1 | 274 | 274 | 274 | 0 | 0 | 0 | 0 | 0 | 19.4 |
| Roaster R-2 | 274 | 274 | 274 | 0 | 0 | 0 | 0 | 0 | |
| Burner emission for Roaster R-1 | 0.3 | 1.3 | 1.3 | 0.1 | 1 | 14.6 | 17.3 | 20,940 | 0.33 |
| Burner emission for Roaster R-2 | 0.3 | 1.3 | 1.3 | 0.1 | 1 | 14.6 | 17.3 | 20,940 | 0.33 |
| Iron Oxide Storage Bins (O-1 through O-4) | 65.5 | 65.5 | 65.5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boiler (B-1) | 0.1 | 0.3 | 0.3 | 0 | 0.2 | 2.9 | 3.5 | 4,230 | 0.07 |
| Chlorination System | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | neg |
| Tank Farm, TS-1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Unpaved Road | 6.74 | 1.4 | 1.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Emissions | 620.94 | 617.80 | 617.80 | 0.20 | 2.20 | 32.10 | 38.10 | 46110.00 | Single HAP <10 Combined HAPs < 25 |

Appendix A: Emissions Calculations

Emission Summary

Source Name: American Iron Oxide Company
Source Location: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Permit Reviewer: Josiah Balogun
Date: 6-May-2012

Limited Potential to Emit

| | PM (tons/yr) | PM₁₀ (tons/yr) | PM_{2.5} (tons/yr) | SO₂ (tons/yr) | VOC (tons/yr) | CO (tons/yr) | NOx (tons/yr) | GHGs as CO₂e (tons/yr) | HAPs (tons/yr) |
|---|-------------------------|--------------------------------------|---------------------------------------|-------------------------------------|--------------------------|-------------------------|--------------------------|--|---------------------------------------|
| Emission Unit | | | | | | | | | |
| Roaster R-1 | 75 | 75 | 75 | 0 | 0 | 0 | 0 | 0 | 19.4 |
| Roaster R-2 | | | | 0 | 0 | 0 | 0 | 0 | |
| Burner emission for Roaster R-1 | 0.3 | 1.3 | 1.3 | 0.1 | 1 | 14.6 | 17.3 | 20,940 | 0.33 |
| Burner emission for Roaster R-2 | 0.3 | 1.3 | 1.3 | 0.1 | 1 | 14.6 | 17.3 | 20,940 | 0.33 |
| Iron Oxide Storage Bins (O-1 through O-4) | 17.5 | 17.5 | 17.5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boiler (B-1) | 0.1 | 0.3 | 0.3 | 0 | 0.2 | 2.9 | 3.5 | 4,230 | 0.07 |
| Chlorination System | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Tank Farm, TS-1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | neg |
| Unpaved Road | 6.74 | 1.4 | 1.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Emissions | 99.94 | 96.80 | 96.80 | 0.20 | 2.20 | 32.10 | 38.10 | 46110.00 | Single HAP < 10 Combined HAPs < 25 |

**Appendix A: Emission Calculations
Process Lines**

Company Name: American Iron Oxide Company
Address City IN Zip: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Reviewer: Josiah Balogun
Date: 6-May-2012

| Process | PM/PM10 (lb/ton) | HCl (lb/ton) | NOx (lb/MMBtu) | Maximum Capacity (tons/hr) | Maximum Capacity (MMBtu/hr) | Potential to emit after control | | | PM/PM10 Control Efficiency | HCl Control Efficiency | Potential to PM/PM10 (tons/yr) |
|---------------------|---------------------|-----------------|-------------------|----------------------------------|-----------------------------------|---------------------------------|------------------|------------------|----------------------------------|------------------------------|--------------------------------------|
| | | | | | | PM/PM10 (tons/yr) | HCl (tons/yr) | NOx (tons/yr) | | | |
| Process Line 1 (R1) | 0.05 | 0.04 | 0.15 | 15 | 26.8 | 3.29 | 2.63 | 17.6 | 98.80% | 95.00% | 274 |
| Process Line 2 (R2) | 0.05 | 0.04 | 0.15 | 15 | 26.8 | 3.29 | 2.63 | 17.6 | 98.80% | 95.00% | 274 |
| Totals: | | | | | | 6.57 | 5.26 | 35.2 | | | 548 |

All emission factors are based on the stack test conducted on 4/10 and 4/11/01 with a safety factor of 10% and rounded to the next one hundredth.
 All emission factors are after control by the two (2) scrubbers in series and the mist eliminator.
 Note: The Cl2 emissions is from the stack testing that was conducted on June 28, 2006 by the source.

Nickel and Chromium

| Process | Weight % Cr2O3 | Weight % NiO | Potential to emit after control | | | Potential to emit before control | | |
|---------------------|-------------------|-----------------|---------------------------------|-----------------|--|----------------------------------|-----------------|--|
| | | | Cr (tons/yr) | Ni (tons/yr) | | Cr (tons/yr) | Ni (tons/yr) | |
| Process Line 1 (R1) | 1.46% | 0.04% | 0.048 | 0.001 | | 4.01 | 0.112 | |
| Process Line 2 (R2) | 1.46% | 0.04% | 0.048 | 0.001 | | 4.01 | 0.112 | |
| | | | 0.096 | 0.003 | | 8.02 | 0.224 | |

Chromium Emissions = PM/PM10 Emissions x Weight % Cr2O3
 Nickel Emissions = PM/PM10 Emissions x Weight % NiO
 Weight % provided by the applicant

**Appendix A: Emission Calculations
Iron Oxide Bins**

Company Name: American Iron Oxide Company
Address City IN Zip: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Reviewer: Josiah Balogun
Date: 6-May-2012

| Unit ID | Control Efficiency (%) | Grain Loading per Dry Standard Cubic foot of Outlet Air (grains/cub. ft.) | Gas or Air Flow Rate (acfm.) | Actual Temperature (deg. F) | Volume % Moisture | PM Emission Rate before Controls (lb/hr) | PM Emission Rate before Controls (tons/yr) | PM Emission Rate after Controls (lb/hr) | PM Emission Rate after Controls (tons/yr) |
|-----------------------------------|------------------------|---|------------------------------|-----------------------------|-------------------|--|--|---|---|
| Iron Oxide Bins (O-1 through O-4) | 99.0% | 0.0140 | 2400 | 150 | 40% | 14.96 | 65.5 | 0.1496 | 0.655 |

Methodology

Emission Rate in lbs/hr (after controls) = (grains/dry standard cub. ft.) x ((cub. ft./min.) x ((460+standard temperature (68)) / (460 + actual temperature))) x ((100 - %moisture)/100) x (60 min/hr) x (lb/7000 grains)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

PM = PM10

Note that each bin has its own baghouse, but only one bin can be filled at a time.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Company Name: American Iron Oxide Company
Address City IN Zip: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Reviewer: Josiah Balogun
Date: 6-May-2012

| | | |
|---------------------------------|-----------------------|---------------------------------|
| Heat Input Capacity MMBtu/hr | HHV mmBtu mmscf | Potential Throughput MMCF/yr |
| 39.6 | 1000 | 346.9 |

| Emission Factor in lb/MMCF | Pollutant | | | | | | |
|-------------------------------|-----------|-------|---------------|-----|--------------------|-----|------|
| | PM* | PM10* | direct PM2.5* | SO2 | NOx | VOC | CO |
| | 1.9 | 7.6 | 7.6 | 0.6 | 100 **see below | 5.5 | 84 |
| Potential Emission in tons/yr | 0.3 | 1.3 | 1.3 | 0.1 | 17.3 | 1.0 | 14.6 |

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

PM2.5 emission factor is filterable and condensable PM2.5 combined.

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

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

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

See page 6 for HAPs emissions calculations.

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

Company Name: American Iron Oxide Company
Address City IN Zip: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Reviewer: Josiah Balogun
Date: 6-May-2012

| 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 | 3.642E-04 | 2.081E-04 | 1.301E-02 | 3.122E-01 | 5.897E-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 | 8.672E-05 | 1.908E-04 | 2.428E-04 | 6.591E-05 | 3.642E-04 |

Methodology is the same as page 5.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.
 See Page 7 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Greenhouse Gas Emissions****Company Name:** American Iron Oxide Company**Address City IN Zip:** 2001 E CR 700 North, Grandview, IN 47615**Permit Number:** F147-32144-00050**Reviewer:** Josiah Balogun**Date:** 6-May-2012

| | Greenhouse Gas | | |
|---------------------------------------|----------------|-----|-----|
| | CO2 | CH4 | N2O |
| Emission Factor in lb/MMcf | 120,000 | 2.3 | 2.2 |
| Potential Emission in tons/yr | 20,814 | 0.4 | 0.4 |
| Summed Potential Emissions in tons/yr | 20,815 | | |
| CO2e Total in tons/yr | 20,940 | | |

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Company Name: American Iron Oxide Company
Address City IN Zip: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Reviewer: Josiah Balogun
Date: 6-May-2012

| | | |
|---------------------------------|-----------------------|---------------------------------|
| Heat Input Capacity MMBtu/hr | HHV mmBtu mmscf | Potential Throughput MMCF/yr |
| 39.6 | 1000 | 346.9 |

| Emission Factor in lb/MMCF | Pollutant | | | | | | |
|-------------------------------|-----------|-------|---------------|-----|--------------------|-----|------|
| | PM* | PM10* | direct PM2.5* | SO2 | NOx | VOC | CO |
| | 1.9 | 7.6 | 7.6 | 0.6 | 100 **see below | 5.5 | 84 |
| Potential Emission in tons/yr | 0.3 | 1.3 | 1.3 | 0.1 | 17.3 | 1.0 | 14.6 |

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

PM2.5 emission factor is filterable and condensable PM2.5 combined.

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

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

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

See page 9 for HAPs emissions calculations.

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

Company Name: American Iron Oxide Company
Address City IN Zip: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Reviewer: Josiah Balogun
Date: 6-May-2012

| 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 | 3.642E-04 | 2.081E-04 | 1.301E-02 | 3.122E-01 | 5.897E-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 | 8.672E-05 | 1.908E-04 | 2.428E-04 | 6.591E-05 | 3.642E-04 |

Methodology is the same as page 8.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.
 See Page 10 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Greenhouse Gas Emissions****Company Name:** American Iron Oxide Company**Address City IN Zip:** 2001 E CR 700 North, Grandview, IN 47615**Permit Number:** F147-32144-00050**Reviewer:** Josiah Balogun**Date:** 6-May-2012

| | Greenhouse Gas | | |
|---------------------------------------|----------------|-----|-----|
| | CO2 | CH4 | N2O |
| Emission Factor in lb/MMcf | 120,000 | 2.3 | 2.2 |
| Potential Emission in tons/yr | 20,814 | 0.4 | 0.4 |
| Summed Potential Emissions in tons/yr | 20,815 | | |
| CO2e Total in tons/yr | 20,940 | | |

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Company Name: American Iron Oxide Company
Address City IN Zip: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Reviewer: Josiah Balogun
Date: 6-May-2012

| | | |
|---------------------------------|-----------------------|---------------------------------|
| Heat Input Capacity MMBtu/hr | HHV mmBtu mmscf | Potential Throughput MMCF/yr |
| 8.0 | 1000 | 70.1 |

| Emission Factor in lb/MMCF | Pollutant | | | | | | |
|-------------------------------|-----------|-------|---------------|-----|--------------------|-----|-----|
| | PM* | PM10* | direct PM2.5* | SO2 | NOx | VOC | CO |
| | 1.9 | 7.6 | 7.6 | 0.6 | 100 **see below | 5.5 | 84 |
| Potential Emission in tons/yr | 0.1 | 0.3 | 0.3 | 0.0 | 3.5 | 0.2 | 2.9 |

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

PM2.5 emission factor is filterable and condensable PM2.5 combined.

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

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

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

See page 12 for HAPs emissions calculations.

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

Company Name: American Iron Oxide Company
Address City IN Zip: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Reviewer: Josiah Balogun
Date: 6-May-2012

| 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 | 7.358E-05 | 4.205E-05 | 2.628E-03 | 6.307E-02 | 1.191E-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 | 1.752E-05 | 3.854E-05 | 4.906E-05 | 1.332E-05 | 7.358E-05 |

Methodology is the same as page 11.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.
 See Page 13 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Greenhouse Gas Emissions****Company Name:** American Iron Oxide Company**Address City IN Zip:** 2001 E CR 700 North, Grandview, IN 47615**Permit Number:** F147-32144-00050**Reviewer:** Josiah Balogun**Date:** 6-May-2012

| | Greenhouse Gas | | |
|---------------------------------------|----------------|-----|-----|
| | CO2 | CH4 | N2O |
| Emission Factor in lb/MMcf | 120,000 | 2.3 | 2.2 |
| Potential Emission in tons/yr | 4,205 | 0.1 | 0.1 |
| Summed Potential Emissions in tons/yr | 4,205 | | |
| CO2e Total in tons/yr | 4,230 | | |

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations Unpaved Roads

Company Name: American Iron Oxide Company
Address City IN Zip: 2001 E CR 700 North, Grandview, IN 47615
Permit Number: F147-32144-00050
Reviewer: Josiah Balogun
Date: 6-May-2012

The following calculations determine the amount of emissions created by vehicle traffic on unpaved roads, based on 8760 hours of use and AP-42, Ch 13.2.2

| | | | | | |
|------------------------------|---|----------------------------|---|----------------------|--|
| <u>2.0</u> trips/hr x | | | | | |
| <u>0.2</u> miles/roundtrip x | | | | | |
| 8760 hrs/yr = | | <u>3504</u> miles per year | | | |
| For PM | | | | | |
| | For PM-10 | | | | |
| | $E_f = \{k \cdot [s/12]^{0.8} \cdot [(W/3)^b] / [(M_{dry}/0.2)^c] \cdot [(365-p)/365] \cdot S / 15$ | | | | |
| 7.69 | = | 1.60 lb/mile | | | |
| 10 | where k = | 2.6 | (particle size multiplier for PM-10) (k=10 for PM-30 or TSP) | | |
| 6 | s = | 6 | mean % silt content of unpaved roads | | |
| 0.5 | b = | 0.4 | Constant for PM-10 (b = 0.5 for PM-30 or TSP) | | |
| 0.4 | c = | 0.3 | Constant for PM-10 (c = 0.4 for PM-30 or TSP) | | |
| 28 | W = | 28 | tons average vehicle weight | | |
| 0.2 | M _{dry} = | 0.2 | surface material moisture content, % (default is 0.2 for dry conditions) | | |
| 125 | p = | 125 | number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1) | | |
| 10 | S = | 10 | miles/hr vehicle speed | | |
| | 7.69 lb/mi x | 3504 mi/yr = | PM | <u>13.48</u> tons/yr | |
| | | 2000 lb/ton | | | |
| | 1.60 lb/mi x | 3504 mi/yr = | PM-10 | <u>2.80</u> tons/yr | |
| | | 2000 lb/ton | | | |

| | | |
|-------------------------------|-----|----------------------------------|
| Percent emitted after control | 50% | After Control emissions |
| | | PM 6.74 tons/yr |
| | | PM-10 1.40 tons/yr |



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Franz Mullings
American Iron Oxide Company (AMROX)
1111 N SR 149
Burns Harbor, IN 46304

DATE: July 30, 2012

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

SUBJECT: Final Decision
FESOP .
147-32144-00050

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

July 30, 2012

TO: Spencer County Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: American Iron Oxide Company (AMROX)
Permit Number: 147-32144-00050

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

| | | | | |
|----------------------------|---|---|---|--|
| IDEM Staff | CDENNY 7/30/2012 American Iron Oxide Company (AMROX) 147-32144-00050 (final) | | | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING |
| Name and address of Sender |  | Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204 | Type of Mail: CERTIFICATE OF MAILING ONLY | |

| Line | Article Number | Name, Address, Street and Post Office Address | Postage | Handing Charges | Act. Value (If Registered) | Insured Value | Due Send if COD | R.R. Fee | S.D. Fee | S.H. Fee | Rest. Del. Fee | Remarks |
|------|----------------|---|---------|-----------------|----------------------------|---------------|-----------------|----------|----------|----------|----------------|---------|
| 1 | | Franz Mullings American Iron Oxide Company (AMROX) 1111 N SR 149 Burns Harbor IN 46304 (Source CAATS) | | | | | | | | | | |
| 2 | | Michael Sieckmann VP American Iron Oxide Company (AMROX) 661 Andersen Dr, Foster PI #7 Pittsburgh PA 15220 (RO CAATS) | | | | | | | | | | |
| 3 | | Mr. Wendell Hibdon Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 (Affected Party) | | | | | | | | | | |
| 4 | | Ms. Francis Lueken 223 W. 10th Street, P.O. Box 206 Ferdinand IN 47532 (Affected Party) | | | | | | | | | | |
| 5 | | Richard & Betty Michel 2222 E. County Rd 700 N. Grandview IN 47615 (Affected Party) | | | | | | | | | | |
| 6 | | Grandview Town Council P.O. Box 638 Grandview IN 47615 (Local Official) | | | | | | | | | | |
| 7 | | Spencer Co Public Library 210 N Walnut St Rockport IN 47635-1398 (Library) | | | | | | | | | | |
| 8 | | Ms. Kathy Tretter Dubois-Spencer Counties Publishing Co, Inc P.O. Box 38 Ferdinand IN 47532-0038 (Affected Party) | | | | | | | | | | |
| 9 | | Spencer County Commissioners 200 Main St., Courthouse Rockport IN 47635 (Local Official) | | | | | | | | | | |
| 10 | | Spencer County Health Department Main Street Courthouse, 1st Floor, Room 1 Roackport IN 47635-1492 (Health Department) | | | | | | | | | | |
| 11 | | Mr. Mark Wilson Evansville Courier & Press P.O. Box 268 Evansville IN 47702-0268 (Affected Party) | | | | | | | | | | |
| 12 | | Mr. John Blair 800 Adams Ave Evansville IN 47713 (Affected Party) | | | | | | | | | | |
| 13 | | David Boggs 216 Western Hills Dr Mt Vernon IN 47620 (Affected Party) | | | | | | | | | | |
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