



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: November 13, 2008

RE: Koch Nitrogen Company / 107-26766-00053

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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Minor Source Operating Permit OFFICE OF AIR QUALITY

**Koch Nitrogen Company
4904 U.S. 231 North
Crawfordsville, Indiana 47933**

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

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

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 MSOP under 326 IAC 2-6.1.

| | |
|--|------------------------------------|
| Operation Permit No.: M107-26766-00053 | |
| Original signed by: | Issuance Date: November 13, 2008 |
| Alfred C. Dumauual, Ph. D., Section Chief Permits Branch Office of Air Quality | Expiration Date: November 13, 2013 |
| | |

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SECTION A SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary ammonia terminal.

| | |
|------------------------------|---|
| Source Address: | 4904 U.S. 231 North, Crawfordsville, Indiana 47933 |
| Mailing Address: | 4111 East 37th Street North, Wichita, Kansas, 67220 |
| General Source Phone Number: | 765-362-8362 |
| SIC Code: | 5191 |
| County Location: | Montgomery |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Minor Source Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories |

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) natural gas-fired ammonia flare, designated as Flare 1, constructed in 1999, for controlling ammonia emissions from ammonia truck loading and during emergency and maintenance periods, with a maximum natural gas usage rate of 1.1 million British thermal units per hour (MMBtu/hr) during flaring, and exhausting to stack F-1.
- (b) One (1) natural gas-fired emergency backup generator, designated as G-1, constructed in 1999, with a maximum capacity of 8 kilowatts per hour, and exhausting to stack G-1.
- (c) Ammonia truck loading, with residual ammonia in loading equipment and truck blowdown ammonia emissions controlled by Flare 1.
- (d) One (1) 200 ton ammonia bullet tank.
- (e) Fugitive ammonia emissions due to equipment leaks.
- (f) Fugitive emissions from unpaved roads and parking lots.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

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 2-1.1-1) shall prevail.

B.2 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, M107-26766-00053, 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

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

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

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

B.7 Duty to Provide Information

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). 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

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.10 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

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

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

B.11 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to M107-26766-00053 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.12 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least ninety (90) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.13 Permit Renewal [326 IAC 2-6.1-7]

- (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 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require the certification 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least ninety (90) days 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 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.14 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

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

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.15 Source Modification Requirement

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

**B.16 Inspection and Entry
[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][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 permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under 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.17 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.18 Annual Fee Payment [326 IAC 2-1.1-7]

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

B.19 Credible Evidence [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 2-6.1-5(a)(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 Permit Revocation [326 IAC 2-1.1-9]

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

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

C.3 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute 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 or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

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 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on July 17, 2008, or the most recent plan approved by the Commissioner. The plan is included as Attachment A.

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
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by 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. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-6.1-5(a)(2)]

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

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by 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 certification 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 2-6.1-5(a)(2)]

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

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

C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

C.13 Instrument Specifications [326 IAC 2-1.1-11]

- (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

C.14 Response to Excursions or Exceedances

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

- (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

C.16 Malfunctions Report [326 IAC 1-6-2]

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

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.17 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.18 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

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

**MINOR SOURCE OPERATING PERMIT (MSOP)
CERTIFICATION**

Source Name: Koch Nitrogen Company
Source Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
Mailing Address: 4111 East 37th Street North, Wichita, Kansas, 67220
MSOP Permit No.: M107-26766-00053

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 BRANCH**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

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

| | |
|----------------------|-------------------------------|
| Company Name: | Koch Nitrogen Company |
| Address: | 4904 U.S. 231 North |
| City: | Crawfordsville, Indiana 47933 |
| Phone #: | 765-362-8362 |
| MSOP #: | M107-26766-00053 |

I hereby certify that Koch Nitrogen Company is :

still in operation.

no longer in operation.

I hereby certify that Koch Nitrogen Company is :

in compliance with the requirements of MSOP M107-26766-00053.

not in compliance with the requirements of MSOP M107-26766-00053.

| |
|---------------------------------------|
| Authorized Individual (typed): |
| Title: |
| Signature: |
| Date: |

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

| |
|-----------------------|
| Noncompliance: |
| |
| |
| |
| |

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER - 317 233-6865

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

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

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

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

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

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

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

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

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

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

326 IAC 1-6-1 Applicability of rule

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

326 IAC 1-2-39 "Malfunction" definition

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

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

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

Attachment A

Fugitive Particulate Matter Control Plan Koch Nitrogen Company Crawfordsville Ammonia Terminal

| 326 IAC 6-5-5 Section 5 (a) | |
|---|--|
| 1. Name and Address of the Source: | Koch Nitrogen Company Crawfordsville Ammonia Terminal 4904 U.S. Highway 231 North Crawfordsville, Indiana 47933 |
| 2. Name and Address of the owner or operator responsible for execution of the plan: | Koch Nitrogen Company 4111 East 37 th Street North Wichita, Kansas 67220 |
| 3. Identification of all processes, operations and areas which have the potential to emit fugitive particulate matter in accordance with 326 IAC 6-5-4: | Unpaved roads from property boundary at county road to truck loading area. |
| 4. A map of the source showing aggregate pile areas, access areas around the aggregate pile, unpaved roads, paved roads, parking lots, and location of conveyor transfer points, etc. | Attached is a site plan with the unpaved roads identified. |
| 5. The number and mix of vehicular activity occurring on paved roads, unpaved roads, and parking lots. | Trucks on unpaved roads: 29930 maximum (approx. 95% ammonia trucks/ 5% pickups. Vehicle miles: 9279 miles maximum |
| 6. Type and quantity of material handled. | Anhydrous ammonia; maximum of 569,400 tons/year |
| 7. Equipment used to maintain aggregate piles. | Not applicable |
| 8. A description of the measures to be implemented to control fugitive particulate matter emissions resulting from emission points identified in subdivision (3). | (E) Equivalent alternate measures: Vehicle restrictions have been implemented at the site. The enforced speed limit is 5 miles per hour. |
| 9. A description of the dust suppressant material such as oil or chemical including the estimated frequency of application rates and concentrations. | Not applicable. Historical experience at the facility has demonstrated that fugitive dust emissions are effectively controlled with the existing vehicle restrictions. |
| 10. A specification of the particulate matter collection equipment used as a fugitive particulate matter emission control measure. | Not applicable |
| 11. A schedule of compliance with the provisions of the control plan. Such schedule shall specify the amount of time the source requires to award any necessary contracts, commence and complete construction, installation, or modification of the fugitive particulate matter control measures. | Vehicle Restrictions: The speed limit is currently in place and enforced through training of the drivers. Drivers violating this speed limit are stopped and informed they are speeding. If a driver continues to violate the speed limit, access to the site is denied. |
| 12. Other relevant data that may be requested by the commissioner, to evaluate the effectiveness of the control plan. | To be determined |

Records shall be kept and maintained that document the control measures under this plan. The records shall be available upon the request of the commissioner and shall be retained for three years.

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

Addendum to the Technical Support Document (ATSD) for an Exemption
transitioning to a Minor Source Operating Permit (MSOP)

Source Background and Description

| | |
|------------------------------|--|
| Source Name: | Koch Nitrogen Company |
| Source Location: | 4904 U.S. 231 North, Crawfordsville, IN 47933 |
| County: | Montgomery |
| SIC Code: | 5191 |
| Operation Permit No.: | M107-26766-00053 |
| Permit Reviewer: | Sarah Conner, Ph. D. |

On October 10, 2008, the Office of Air Quality (OAQ) had a notice published in the Journal Review, Crawfordsville, Indiana, stating that Koch Nitrogen Company had applied for the transition of an Exemption to a MSOP of an existing stationary ammonia terminal. The inclusion of unpaved road emissions in the PTE calculations increased the source-wide PTE for this existing stationary ammonia terminal such that an MSOP is required. The notice also stated that the OAQ proposed to issue a MSOP for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On November 4, 2008, Koch Nitrogen Company submitted comments to IDEM, OAQ on the draft MSOP.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

Koch Nitrogen Company realized that the TSD did not include the ammonia flare, Flare 1, in the Emergency Generator section on page 5. Koch Nitrogen Company requests that Emergency Generator section be revised to a Natural Gas Combustion Unit section. The requested changes are shown below with deleted language as ~~strikeouts~~ and new language **bolded**.

~~Emergency Generator~~ **Natural Gas Combustion Units**

- (n) 326 IAC 6-3 (Particulate Emissions Limitations)
Pursuant to 326 IAC 6-3-1(b)(14), the emergency generator **and Flare 1 are each** is-exempt from the requirements of 326 IAC 6-3-2, because ~~this~~ **each** unit has a potential to emit PM emissions less than five hundred fifty-one thousandths (0.551) pound per hour. In addition, ~~each unit the emergency generator~~ **each unit** is exempt from the requirements of 326 IAC 6-3-2, because ~~they each are~~ **it** is not considered a "manufacturing process" as defined by 326 IAC 6-3-1.5(2).

Response to Comment 1:

Although Koch Nitrogen Company is correct in that the Flare 1 is exempt from the requirements of 326 IAC 6-3-2, the Emergency Generator section of the TSD was not changed because IDEM, OAQ does not make changes to the original TSD. Therefore, no changes were made as a result of this comment.

| |
|---------------------|
| IDEM Contact |
|---------------------|

- (a) Questions regarding this proposed MSOP can be directed to Sarah Conner, Ph. D. 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) 234-6555 or toll free at 1-800-451-6027 extension 4-6555.
- (b) A copy of the permit 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

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption transitioning to a Minor Source Operating Permit (MSOP)

Source Description and Location

Source Name:
Source Location: 4904 U.S. 231 North, Crawfordsville, IN 47933
County: Montgomery
SIC Code: 5191
Operation Permit No.: M107-26766-00053
Permit Reviewer: Sarah Conner, Ph. D.

On July 17, 2008, the Office of Air Quality (OAQ) has received an application from Koch Nitrogen Company related to the transition of an Exemption to a MSOP of an existing stationary ammonia terminal.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Exemption No. 107-16727-00053, issued on December 6, 2002.
- (b) Administrative Amendment No. 107-18328-00053, issued on January 8, 2004.

Due to this application, the source is transitioning from an Exemption to a MSOP.

County Attainment Status

The source is located in Montgomery 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. |
| Pb | Not designated. |
| ¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM _{2.5} . | |

- (a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Montgomery County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5

Montgomery County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

(c) Other Criteria Pollutants

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

| |
|---------------------------|
| Fugitive Emissions |
|---------------------------|

(a) The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.

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

| |
|---|
| Background and Description of Permitted Emission Units |
|---|

The Office of Air Quality (OAQ) has reviewed an application, submitted by Koch Nitrogen Company on July 17, 2008, relating to the transition from an Exemption to a MSOP due to the inclusion of unpaved road emissions in the PTE calculations.

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

- (a) One (1) natural gas-fired ammonia flare, designated as Flare 1, constructed in 1999, for controlling ammonia emissions from ammonia truck loading and during emergency and maintenance periods, with a maximum natural gas usage rate of 1.1 million British thermal units per hour (MMBtu/hr) during flaring, and exhausting to stack F-1.
- (b) One (1) natural gas-fired emergency backup generator, designated as G-1, constructed in 1999, with a maximum capacity of 8 kilowatts per hour, and exhausting to stack G-1.
- (c) Ammonia truck loading, with residual ammonia in loading equipment and truck blowdown ammonia emissions controlled by Flare 1.
- (d) One (1) 200 ton ammonia bullet tank.
- (e) Fugitive ammonia emissions due to equipment leaks.
- (f) Fugitive emissions from unpaved roads and parking lots.

| |
|---------------------------|
| Enforcement Issues |
|---------------------------|

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – MSOP

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

| Pollutant | Potential To Emit (tons/year) |
|--|-------------------------------|
| PM | 48.48 |
| PM10 ⁽¹⁾ | 15.54 |
| PM2.5 | 1.58 |
| SO ₂ | 0.003 |
| NO _x | 2.57 |
| VOC | 0.39 |
| CO | 1.80 |
| Anhydrous NH ₃ ⁽²⁾ | 8.50 |

(1) 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". PM10 emissions are assumed to be equal to PM2.5.

(2) Anhydrous NH₃ is a regulated pollutant under Section 112(r)(3) of the Clean Air Act.

| HAPs | Potential To Emit (tons/year) |
|-----------------------|-------------------------------|
| Hexane | 0.008 |
| All Other Single HAPs | negligible |
| TOTAL HAPs | 0.009 |

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM is less than one hundred (100) tons per year, but greater than or equal to twenty-five (25) tons per year. The PTE of all other regulated criteria pollutants are less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. A Minor Source Operating Permit (MSOP) will be issued.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit.
- (b) The requirements of the New Source Performance Standards for Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (326 IAC 12, 40 CFR 60.4230 - 4248,

Subpart JJJJ) are not included in this permit. The emergency generator commenced construction before June 12, 2006 and was manufactured before July 1, 2008.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit.
- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, Subpart ZZZZ (40 CFR 63.6580 to 63.6675, 326 IAC 20-82), are not included in this permit, since this source is not a major source of HAPs.

Compliance Assurance Monitoring (CAM)

- (e) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in this permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

| |
|---|
| State Rule Applicability Determination |
|---|

The following state rules are applicable to the source:

- (a) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of all attainment regulated pollutants are less than 250 tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 326 IAC 2-6.1 (Minor Source Operating Permits (MSOP))
MSOP applicability is discussed under the Permit Level Determination – MSOP section above.
- (e) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) 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.
 - (2) 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.

- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
The source is subject to the requirements of 326 IAC 6-4, because unpaved roads at the source have the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.
- (g) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is subject to the requirements of 326 IAC 6-5, because the unpaved roads at the source have potential fugitive particulate emissions greater than 25 tons per year. Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, submitted on July 17, 2008, which is included as Attachment A to the permit.
- (h) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The unlimited VOC potential emissions from each of the units at this source is less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply.
- (i) 326 IAC 9-1-2 (Carbon Monoxide Emission Requirements)
This source is not among the listed source categories in 326 IAC 9-1-2. Therefore, this source is not subject to the requirements of 326 IAC 9-1-2.
- (j) 326 IAC 10-1 (Nitrogen Oxide Emission Requirements)
This source is not located in Clark or Floyd County. Therefore, this source is not subject to the requirements of 326 IAC 10-1.
- (k) There are no other 326 IAC 8 Rules that are applicable to the emission units at this source.
- (l) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (m) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Emergency Generator

- (n) 326 IAC 6-3 (Particulate Emissions Limitations)
Pursuant to 326 IAC 6-3-1(b)(14), the emergency generator is exempt from the requirements of 326 IAC 6-3-2, because this unit has a potential to emit PM emissions less than five hundred fifty-one thousandths (0.551) pound per hour. In addition, the emergency generator is exempt from the requirements of 326 IAC 6-3-2, because it is not considered a "manufacturing process" as defined by 326 IAC 6-3-1.5(2).

| |
|--------------------------------------|
| Conclusion and Recommendation |
|--------------------------------------|

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 July 17, 2008.

The operation of this source shall be subject to the conditions of the attached proposed MSOP No. 107-26766-00053. The staff recommends to the Commissioner that this MSOP be approved.

| |
|---------------------|
| IDEM Contact |
|---------------------|

- (a) Questions regarding this proposed permit can be directed to Sarah Conner 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) 234-6555 or toll free at 1-800-451-6027 extension (4-6555).
- (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

SUMMARY OF POTENTIAL EMISSIONS FOR CRAWFORDSVILLE, INDIANA AMMONIA TERMINAL

Company Name: Koch Nitrogen Company

Address: 4904 U.S. 231 North, Crawfordsville, IN 47933

MSOP: 107-26766-00053

Reviewer: Calculations submitted by source and reviewed by Sarah Conner, Ph. D.

Date: 9/30/2008

| | <i>Ammonia</i> (tons/yr) | <i>Nitrogen</i> <i>Oxides</i> (tons/yr) | <i>Carbon</i> <i>Monoxide</i> (tons/yr) | <i>VOC</i> (tons/yr) | <i>Sulfur</i> <i>Dioxide</i> (tons/yr) | <i>Particulate</i> <i>Matter</i> (tons/yr) | <i>PM10</i> (tons/yr) | <i>PM2.5</i> (tons/yr) |
|---------------------------------|-----------------------------|---|---|----------------------------------|--|--|--------------------------|---------------------------|
| 12" Emergency Flare | 7.754 | 2.434 | 1.790 | 0.388 | 0.003 | 0.000 | 0.000 | 0.000 |
| 8 KW Emergency Generator | 0.000 | 0.139 | 0.011 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ammonia Fugitives (1) | 0.436 | | | | | | | |
| Ammonia Loading (1) | 0.306 | | | | | | | |
| Road Fugitives | | | | | | 48.483 | 15.542 | 1.577 |
| TERMINAL WIDE TOTALS | 8.497 | 2.573 | 1.801 | 0.392 | 0.003 | 48.483 | 15.543 | 1.578 |
| Indiana Registration Thresholds | NA | 10 | 25 | 10 ^a / 5 ^b | 10 | 5 | 5 | 5 |
| Indiana Minor Permit Treshold | NA | 25 | 100 | 25 | 25 | 25 | 25 | 25 |
| Federal Major Source Threshold | NA | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Threshold for Maximum Emission of Single HAP**10 tons/yr****Maximum Individual HAP Emission****0.008 tons/yr**Note:

(1) Indiana does not regulate ammonia.

a - for sources not required to operate VOC control equipment

b - for sources required to operate VOC control equipment

POTENTIAL HAZARDOUS AIR POLLUTANT (HAP) EMISSION ESTIMATES
CRAWFORDSVILLE, INDIANA AMMONIA TERMINAL

Company Name: Koch Nitrogen Company
Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
MSOP: 107-26766-00053
Reviewer: Calculations submitted by source and reviewed by Sarah Conner, Ph. D.
Date: 9/30/2008

Maximum Natural Gas Consumption 9,280,520 ft³/yr From Natural Gas usage spreadsheet

| <i>Combustion Products</i> | <i>Emission Factor</i> | <i>Max Emission</i> | | <i>Basis of Estimate</i> |
|--------------------------------------|---|---------------------|---------------|-------------------------------|
| | | <i>lb/yr</i> | <i>ton/yr</i> | |
| Lead | 0.0005 lb/10 ⁶ ft ³ | 0.005 | 0.000 | AP-42: Table 1.4-2 dated 7/98 |
| 91-57-6 2-Methylnaphthalene | 2.40E-05 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 56-49-5 3-Methylchloranthrene | < 1.80E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 7,12-Dimethylbenz(a)anthracene | < 1.60E-05 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 83-32-9 Acenaphthene | < 1.80E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 203-96-8 Acenaphthylene | < 1.80E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 120-12-7 Anthracene | < 2.40E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 56-55-3 Benz(a)anthracene | < 1.80E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 71-43-2 Benzene | 2.10E-03 lb/10 ⁶ ft ³ | 0.019 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 50-32-8 Benzo(a)pyrene | < 1.20E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 205-99-2 Benzo(b)fluoranthene | < 1.80E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 191-24-2 Benzo(g,h,i)perylene | < 1.20E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 205-82-3 Benzo(k)fluoranthene | < 1.80E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 218-01-9 Chrysene | < 1.80E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 53-70-3 Dibenzo(a,h)anthracene | < 1.20E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 25321-22-6 Dichlorobenzene | 1.20E-03 lb/10 ⁶ ft ³ | 0.011 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 206-44-0 Fluoranthene | 3.00E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 86-73-7 Fluorene | 2.80E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 50-00-0 Formaldehyde | 7.50E-02 lb/10 ⁶ ft ³ | 0.696 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 110-54-3 Hexane | 1.80E+00 lb/10 ⁶ ft ³ | 16.705 | 0.008 | AP-42: Table 1.4-3 dated 7/98 |
| 193-39-5 Indeno(1,2,3-cd)pyrene | < 1.80E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 91-20-3 Naphthalene | 6.10E-04 lb/10 ⁶ ft ³ | 0.006 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 85-01-8 Phenanthrene | 1.70E-05 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 129-00-0 Pyrene | 5.00E-06 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 108-88-3 Toluene | 3.40E-03 lb/10 ⁶ ft ³ | 0.032 | 0.000 | AP-42: Table 1.4-3 dated 7/98 |
| 7440-38-2 Arsenic | 2.00E-04 lb/10 ⁶ ft ³ | 0.002 | 0.000 | AP-42: Table 1.4-4 dated 7/98 |
| 7440-41-7 Beryllium | < 1.20E-05 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-4 dated 7/98 |
| 7440-43-9 Cadmium | 1.10E-03 lb/10 ⁶ ft ³ | 0.010 | 0.000 | AP-42: Table 1.4-4 dated 7/98 |
| 7440-47-3 Chromium | 1.40E-03 lb/10 ⁶ ft ³ | 0.013 | 0.000 | AP-42: Table 1.4-4 dated 7/98 |
| 7440-48-4 Cobalt | 8.40E-05 lb/10 ⁶ ft ³ | 0.001 | 0.000 | AP-42: Table 1.4-4 dated 7/98 |
| 7439-96-5 Manganese | 3.80E-04 lb/10 ⁶ ft ³ | 0.004 | 0.000 | AP-42: Table 1.4-4 dated 7/98 |
| 7439-97-6 Mercury | 2.60E-04 lb/10 ⁶ ft ³ | 0.002 | 0.000 | AP-42: Table 1.4-4 dated 7/98 |
| 7440-02-0 Nickel | 2.10E-03 lb/10 ⁶ ft ³ | 0.019 | 0.000 | AP-42: Table 1.4-4 dated 7/98 |
| 7782-49-2 Selenium | < 2.40E-05 lb/10 ⁶ ft ³ | 0.000 | 0.000 | AP-42: Table 1.4-4 dated 7/98 |
| TOTAL HAP EMISSIONS (lb/yr) | | 17.521 | | |
| TOTAL HAP EMISSIONS (tons/yr) | | 0.009 | | |
| MAX INDIVIDUAL HAP EMISSION (lb/yr) | | 16.705 | | |
| MAX INDIVIDUAL HAP EMISSION (ton/yr) | | 0.008 | | |

POTENTIAL NATURAL GAS USAGE FOR CRAWFORDSVILLE, INDIANA AMMONIA TERMINAL

Company Name: Koch Nitrogen Company
Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
MSOP: 107-26766-00053
Reviewer: Calculations submitted by source and reviewed by Sarah Conner, Ph. D.
Date: 9/30/2008

Annual Natural Gas Usage
(ft³/yr)

| | |
|-----------|------------------|
| Generator | 65,000 |
| Flare | <u>9,215,520</u> |
| Total | 9,280,520 |

POTENTIAL FLARE EMISSION ESTIMATES - HOT TERMINAL
 KOCH NITROGEN COMPANY, CRAWFORDSVILLE AMMONIA TERMINAL
 EXPANDED SCOPE - NATURAL GAS

Company Name: Koch Nitrogen Company
 Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
 MSOP: 107-26766-00053
 Reviewer: Calculations submitted by source and reviewed by Sarah Conner, Ph. D.
 Date: 9/30/2008

The operation assumes no idling since trucks would operate around the clock. Hence, natural gas flaring would occur 8760 hours per year, but ammonia flaring would occur for 240 hrs per year for maintenance plus truck loading

| | | | |
|---|-------------------------------|--|--|
| Flare Name: | Stackmatch with Double Pilots | | |
| Pilot Fuel Type: | Natural Gas | | |
| Molecular Weight | 16 lb/lb mole | | |
| Fuel Heat Content | 1,050 BTU/ft ³ | AP-42: Supplement D, Section 1.4.1 (7-1998) | |
| Assumptions | | | |
| Composition of Ammonia during Flaring | 95.453 Volume percent | Calculated (1) | |
| Composition of Natural Gas during Flaring | 4.547 Volume percent | Calculated | |
| Composition of Ammonia during Flaring | 95.709 Wt. percent | Calculated (2) | |
| Composition of Natural Gas during Flaring | 4.291 Wt. percent | Calculated | |
| Maximum Natural Gas Input Rating during pilot idling | NA | No idling | |
| Maximum Natural Gas Input Rating during Flaring | 1.10 MMBtu/hr | Maximum occurs when flaring 100% natural gas (3) | |
| Maximum Natural gas consumption rate during pilot idling | NA | No idling | |
| Maximum Natural gas consumption rate during flaring | 1052.00 ft ³ /hr | Manufacturer's Literature @ 25 psig | |
| Maximum Fuel Heat Content during Flaring (natural gas only) | 1,050 BTU/ft ³ | Fuel heat content of natural gas | |
| Fuel Heat Content during Flaring (ammonia and natural gas) | 390 BTU/ft ³ | Calculated (4) | |
| Annual Hours of Operation | 8,760 hrs/yr | | |

Pilot Flaring (Natural Gas Combustion Only)

| | | |
|--|-------------------------------|----------------------|
| Annual Hours of operation during pilot flaring | 8,760 | Maximum Annual hours |
| Natural Gas Consumption during pilot flaring | 9,215,520 ft ³ /yr | Calculated (5) |

| <u>Combustion Products</u> | <u>Emission Factor</u> | <u>Emission Rates</u> | | | <u>Basis of Estimate</u> |
|----------------------------|------------------------------|-----------------------|-------------|--|--|
| Ammonia | 0.0000032 lb/ft ³ | 0.003366 lb/hr | 0.015 tpy | | WebFIRE Database (4-2006) |
| Nitrogen Oxides | 0.068 lb/MM BTU | 0.0751128 lb/hr | 0.329 tpy | | AP-42: Table 13.5-1(9-1991) (6) |
| Carbon Monoxide | 0.37 lb/MM BTU | 0.408702 lb/hr | 1.790 tpy | | AP-42: Table 13.5-1(9-1991) |
| Particulate Matter | 0 lb/MM BTU | 0 lb/hr | 0.000 tpy | | AP-42: Table 13.5-1(9-1991) non-smoking flare |
| Non-methane VOC | 2 % of VOC flared | 0.089 lb/hr | 0.388 tpy | | AP-42: Chapter 13.5 (9-1991), assume 98% control efficienc |
| Sulfur Dioxide | 2 lb/lb S | 0.00000 lb/hr | 0.00263 tpy | | Assumed all sulfur converted to SO ₂ (8) |

POTENTIAL FLARE EMISSION ESTIMATES - HOT TERMINAL
 KOCH NITROGEN COMPANY, CRAWFORDSVILLE AMMONIA TERMINAL
 EXPANDED SCOPE - NATURAL GAS

Company Name: Koch Nitrogen Company
Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
MSOP: 107-26766-00053
Reviewer: Calculations submitted by source and reviewed by Sarah Conner
Date: 9/30/2008

| | | <u>Basis</u> |
|--|--|-------------------------------|
| Annual Flaring hours of operation | 240.00 hours | Maximum Annual hours |
| Ammonia Flaring flow rate | 22084 ft ³ /hr | Eng Estimate |
| Annual Ammonia Flare flow rate | 5,300,160 ft ³ /yr | Calculated (9) |
| Natural Gas Consumption During Flaring | - ft ³ /yr | Calculated (10) |
| Annual Fuel Consumption during Flaring | 5,300,160 ft ³ /yr | Calculated (11) |
| Assumed temperature | 60 F | |
| Gas Constant | 0.7302 (atm*ft ³)/(lb mole*R) | |
| Assumed Pressure | 1 Atm | Standard atmospheric pressure |
| NOx flare emission factor (12) | 11.1 lb NOx/ton am TNRCC Air Permit & Technical Guidance for Chemical Sources (Flares & Oxidizers) | |
| Pounds of Ammonia sent to Flare from truck Loading | 536,611 lb | |
| Moles of ammonia sent to flare per yr (for maintenance) | 13,959 | Calculated (13) |
| Pounds of ammonia sent to flare each year including truck blowdown | 773,908 | Calculated (14) |
| Flare Efficiency | 0.98 | |
| Pounds of ammonia combusted each year | 758,430 | Calculated (15) |
| Tons of ammonia emitted each year | 7.739 | Calculated (16) |
| Maximum pounds of ammonia emitted per hour | 21.000 | Calculated (17) |
| Average daily ammonia emission over year (lb/day) | 42 | Calculated (18) |
| Maximum Pounds of NOx emitted per yr | 4209.29 | Calculated (20) |
| Maximum Pounds of NOx emitted per hour | 5.71 | |
| Tons of NOx emitted per yr | 2.105 | |

| <u>Totals</u> | <u>Emission Rates</u> | |
|--------------------|-----------------------|-----------|
| Anhydrous Ammonia | 21.003 lb/hr | 7.754 tpy |
| Nitrogen Oxides | 5.786 lb/hr | 2.434 tpy |
| Carbon Monoxide | 0.409 lb/hr | 1.790 tpy |
| Particulate Matter | - lb/hr | 0.000 tpy |
| Non-methane VOC | 0.089 lb/hr | 0.388 tpy |
| Sulfur Dioxide | 0.000 lb/hr | 0.003 tpy |

**POTENTIAL FLARE EMISSION ESTIMATES - HOT TERMINAL
KOCH NITROGEN COMPANY, CRAWFORDSVILLE AMMONIA TERMINAL
EXPANDED SCOPE - NATURAL GAS**

**Company Name: Koch Nitrogen Company
Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
MSOP: 107-26766-00053
Reviewer: Calculations submitted by source and reviewed by Sarah Conner
Date: 9/30/2008**

Explanation of Calculation Methodology

- (1) Volume % of ammonia during flaring = ammonia flow rate during flaring (ft³/hr)/total fuel consumption during flaring (ft³/hr) * 100
- (2) Weight % of ammonia during flaring = $(\text{volume \% of ammonia during flaring} \times 17 \text{ lb/lb.mol}) / [(\text{volume \% of ammonia during flaring}) \times 17 \text{ lb/ lb.mol} + (\text{volume \% of natural gas in flare}) \times 16 \text{ lb/lb.mol}] \times 100$
- (3) Maximum Input Rating during Flaring = $[\text{natural gas consumption rate during flaring (ft}^3\text{/hr)}] \times [\text{fuel heat content (BTU/ft}^3)] / [1,000,000]$
- (4) Fuel heat content during flaring = $[(\text{volume \% of ammonia during flaring}/100) \times 359 \text{ BTU/ft}^3] + [(\text{volume \% of natural gas during flaring}/100) \times 1050 \text{ BTU/ft}^3]$
- (5) Annual natural gas consumption during pilot idling = Maximum Natural gas consumption rate during pilot idling (ft³/hour) x Annual hours of pilot idling operation
- (6) Emission rate for NOx, CO, or PM (tons/yr) = $[\text{emission factor (lb/MMBTU)}] \times [\text{hours of pilot idling/yr}] \times [\text{maximum natural gas input rating during pilot idling (MMBTU/hr)}] / [2000 \text{ lb/ton}]$
- (7) Emission rate for VOCs (tons/yr) = $[\text{natural gas consumption during pilot idling (ft}^3\text{/yr)}] \times [1 \text{ mole}/380 \text{ ft}^3] \times [16 \text{ lb/mole natural gas}] \times [0.05 \times (1-0.98)] \times [1 \text{ ton}/2000 \text{ lb}]$
For VOC emissions, a 98% destruction efficiency is assumed, and natural gas is assumed to have a 10% by weight VOC content
- (8) Emission rate for SO₂ (tons/yr) = $[\text{Natural gas consumed during pilot idling (ft}^3\text{/yr)}] \times [2000 \text{ grains sulfur}/1,000,000 \text{ ft}^3 \text{ natural gas}] \times [1 \text{ lb sulfur}/7,000 \text{ grains sulfur}] \times [64 \text{ lb SO}_2\text{/}32 \text{ lb sulfur}] \times [1 \text{ ton SO}_2\text{/}2,000 \text{ lb SO}_2]$
Assumptions: 2000 grains of sulfur per 10⁶ cubic feet natural gas (Footnote D of AP-42 Table 1.4-2 dated 7/98) and a ratio of 64 lb SO₂ per 32 lb of S
- (9) Annual ammonia flaring flow rate = $[\text{ammonia flaring flow rate (ft}^3\text{/hr)}] \times [\text{annual hours of flare operation}]$
- (10) Annual natural gas flaring flow rate (ft³/yr) = $[\text{maximum natural gas consumption rate during flaring (ft}^3\text{/hr)}] \times [\text{annual hours of flaring operation}]$
- (11) Total fuel consumption during flaring = $[\text{annual natural gas flaring flow rate (ft}^3\text{/yr)}] + [\text{ammonia flaring flow rate (ft}^3\text{/yr)}]$
- (12) The emission factor for converting Ammonia to NOx is based on an Air Permit Technical Guidance for Chemical Sources: Flares and Oxidizers from the Texas Natural Resource Conservation Commission (October 2000, RG-109 draft).
- (13) Moles of ammonia sent to flare each year = $[\text{annual ammonia flaring flow rate (ft}^3\text{/yr)}] / 0.7302 \text{ atm.ft}^3\text{/lb.mol.R}] / [459 + 60^\circ\text{F}] \text{ R}$
- (14) Pounds of ammonia sent to flare each year = Moles of ammonia combusted per year x 17 lb ammonia/1 lb.mol ammonia + pounds of ammonia from purgers and truck blowdown
- (15) Pounds of ammonia combusted each year = Pounds of ammonia sent to flare each year x Flare efficiency
- (16) Tons of ammonia emitted each year = $(\text{Pounds of ammonia sent to flare each year} - \text{Pounds of ammonia combusted each year}) \times (1 \text{ ton}/2000 \text{ pounds})$
- (17) Pounds of ammonia emitted per hour = $[(\text{Moles ammonia sent to the flare each year (for maintenance)} \times 17 \text{ lb ammonia/lb mol ammonia} \times (100 - \text{flaring efficiency})) / \text{annual hours of flaring operation}] - [(\text{Pounds of ammonia sent to flare from truck loading} \times (100 - \text{flare efficiency})) \times \text{annual hours of flare operation}] / \text{total annual hours of operation}]$
- (18) Average daily ammonia emission over year (lb/day) = $(\text{Pounds of ammonia sent to flare each year} - \text{Pounds of ammonia combusted each year}) \times (1 \text{ year}/365 \text{ days})$
- (19) Pounds of ammonia emitted each flaring day = Ammonia flaring flow rate (lb/hr) x (24 hours/day) x (100% - Flaring Efficiency %)
- (20) Pounds of NOx emitted per year = Pounds of ammonia combusted per year x (1ton/2000 lbs) x NOx emission factor (lb NOx/ton ammonia)

**AMMONIA EMISSION ESTIMATES FROM TRUCK LOADING
KOCH AMMONIA TERMINAL - CRAWFORDSVILLE, IN**

Company Name: Koch Nitrogen Company
Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
MSOP: 107-26766-00053
Reviewer: Calculations submitted by source and reviewed by Sarah Conner, Ph. D.
Date: 9/30/2008

| | | |
|--|--------------------------|------------|
| Maximum Pipeline Capacity | 65 TPH | |
| Maximum Ammonia Throughput per year | 569,400 TPY (calculated) | |
| Typical Load per truck | 20 Tons per Truck | |
| Maximum number of truck loads per year | 28,470 | |
| Unloading arm length | 22 feet | |
| Unloading arm diameter | 2 inches | |
| Volume of pipe | 0.480 ft ³ | Calculated |

Assume entire content of hose is emitted

| | |
|------------------------------------|---------------------------|
| Volume of Ammonia emitted per year | 13665 ft ³ /yr |
|------------------------------------|---------------------------|

Determine pounds of NH3 released per year

Ideal Gas Law: $pV = nRT$

where:

| | |
|-----|---|
| p = | 1 atm |
| V = | 13665 ft ³ /yr |
| T = | 60 ° F |
| R = | 0.7302 (atm*ft ³)/(lb mole*R) |

$n = pV/RT =$ 36.0570 lb.mole/yr

| | |
|---------------------------|--------------------|
| Molecular weight of NH3 = | 17 lb/lb.mole |
| Pounds of NH3 released = | 613 lb/yr |
| | 1.68 lb/day |

| | |
|--------------------------------------|------------|
| Federal Notification Level for NH3 = | 100 lb/day |
|--------------------------------------|------------|

| | | |
|-----------------------------|----------------------|----------------------|
| NH3 emitted per year | 0.306 tons/yr | To Atmosphere |
|-----------------------------|----------------------|----------------------|

| | | |
|--------------------------------|-----------------------|---|
| Ammonia wt per ft ³ | 39.27 lbs | |
| NH3 Sent to Flare | 536,611 lbs/yr | To Flare (assume all liquid in line) |

**POTENTIAL GENERATOR EMISSIONS
CRAWFORDSVILLE, INDIANA AMMONIA TERMINAL**

Company Name: Koch Nitrogen Company
Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
MSOP: 107-26766-00053
Reviewer: Calculations submitted by source and reviewed by Sarah Conner, Ph. D.
Date: 9/30/2008

Size: 8 KW Design Info
Pilot Fuel Type: Natural gas

NOTE : according to 326 IAC 2-1.1-3(e)(25)(B) gas turbines on emergency generators less than 16,000 HP (11,900 KW) are exempt

Assumptions

| | | |
|---------------------------|---------------|--|
| Fuel Heat Content | 1050 Btu/ft3 | |
| Annual Hours of Operation | 500 hrs/yr | Per USEPA Guidance for Backup Generators |
| Maximum Natural Gas Usage | 130.00 ft3/hr | Estimated from product literature |

| <i>Combustion Products</i> | <i>Emission Factor</i> | <i>Emission Rates</i> | | <i>Basis of Estimate</i> |
|---------------------------------------|-----------------------------------|------------------------------|-----------|---------------------------------|
| Nitrogen Oxides | 0.004284 lb/ft3 | 0.5569 lbs/hr | 0.139 tpy | AP-42: Table 3.2-2 |
| Carbon Monoxide | 0.00033285 lb/ft3 | 0.0433 lbs/hr | 0.011 tpy | AP-42: Table 3.2-2 |
| Particulate Matter | 1.041E-05 lb/ft3 | 0.0014 lbs/hr | 0.000 tpy | AP-42: Table 3.2-2 |
| Non-methane VOC | 0.0001239 lb/ft3 | 0.0161 lbs/hr | 0.004 tpy | AP-42: Table 3.2-2 |
| Sulfur Dioxide * | 6.174E-07 lb/ft3 | 0.0001 lbs/hr | 0.000 tpy | AP-42: Table 3.2-2 |
| Ammonia | 0.0000091 lb/ft3 | 0.0012 lbs/hr | 0.000 tpy | WebFIRE Database (4-2006) |

**POTENTIAL FUGITIVE EMISSIONS FROM UNPAVED ROADS - HOT TERMINAL
KOCH NITROGEN COMPANY, CRAWFORDSVILLE AMMONIA TERMINAL**

Company Name: Koch Nitrogen Company
Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
MSOP: 107-26766-00053
Reviewer: Calculations submitted by source and reviewed by Sarah Conner, Ph. D.
Date: 9/30/2008

Using AP-42 Section 13.2.2 Unpaved Roads (Dated 11/2006), an emission factor was calculated to estimate fugitive road dust in pound/vehicle mile traveled (lb/VMT).

FORMULAS:

$E = k(s/12)^a(W/3)^b$ (equation 1a)

$E_{EXT} = E[(365-P)/365]$ (equation 2)

where:

- E = size-specific emission factor (lb/VMT)
- s = surface material silt content (%)
- W = mean vehicle weight (tons)
- E_{EXT} = annual size-specific emission factor extrapolated for natural mitigation (lb/VMT)
- P = number of days in a year with at least 0.254 mm (0.01 in) of precipitation + Days of effective dust control measures

and empirical constants K, a, and b are:

| | PM2.5 | PM10 | PM30 |
|---|-------|------|------|
| k | 0.15 | 1.5 | 4.9 |
| a | 0.9 | 0.9 | 0.7 |
| b | 0.45 | 0.45 | 0.45 |

For this site assume the following site-specific variable values:

- s = 15 Sample results
- W = 29 tons¹
- P_{precip} = 125 days, estimated from AP-42 Figure 13.2.2-1 (11/06)
- P_{dcm} = 0 days, assumed from dust control measures currently in place²
- P = 125 days

¹ Pickup trucks (weighing approximately 2 tons) are used on site that account for approximately 5% of total VMT; the other 95% of VMT is from ammonia trucks (weighing about 20 tons empty and 40 tons full).

² Dust control measures at the site includes: (a) treating road with chemical dust suppressant, and (b) maximum speed limit on the road is 5 mph.

CALCULATED EMISSION FACTOR:

- $E_{PM2.5}$ = 0.51 lb/VMT, calculated as $(0.15) * ((s/12)^{0.9}) * ((29/3)^{0.45})$ as in Equation 1a
- E_{PM10} = 5.09 lb/VMT, calculated as $(1.5) * ((s/12)^{0.9}) * ((29/3)^{0.45})$ as in Equation 1a
- E_{PM30} = 15.9 lb/VMT, calculated as $(4.9) * ((s/12)^{0.7}) * ((29/3)^{0.45})$ as in Equation 1a

The emission factor above is representative of uncontrolled emissions and does not account for natural mitigation from rainfall. Therefore the emission factor is adjusted as follows:

- $E_{PM2.5 EXT}$ = 0.34 lb/VMT, calculated as $E_{PM2.5} * ((365-P)/365)$ as in Equation 2
- $E_{PM10 EXT}$ = 3.35 lb/VMT, calculated as $E_{PM10} * ((365-P)/365)$ as in Equation 2
- $E_{PM30 EXT}$ = 10.45 lb/VMT, calculated as $E_{PM30} * ((365-P)/365)$ as in Equation 2

VEHICLE MILES TRAVELED (VMT):

Maximum potential VMT for ammonia trucks are estimated as follows:
 569400 tons/yr, maximum ammonia output (see "Maximum Facility Capacities" table)
 20 tons/truck, approximate capacity for an ammonia truck
 28470 trucks/yr
 0.3100 miles/truck, average round trip beginning at property line
 8826 miles/yr

Estimated VMT for pickup trucks are as follows:
 4 pickups/day, typical traffic pattern
 1460 pickups/year
 0.3100 miles/truck, average round trip beginning at property line
 453 miles/yr
 Total potential VMT: 9279 miles/yr

POTENTIAL EMISSION ESTIMATES:

- PM2.5 = 1.6 tons/yr
- PM10 = 15.5 tons/yr
- PM30 = 48.5 tons/yr

FUGITIVE COMPONENTS

Company Name: Koch Nitrogen Company
Address: 4904 U.S. 231 North, Crawfordsville, IN 47933
MSOP: 107-26766-00053
Reviewer: Calculations submitted by source and reviewed by Sarah Conner, Ph. D.
Date: 9/30/2008

Terminal:

Data:

Connection Points:

Total # of valves:

Liquid:

Total # of relief valves:

Vapor:

Total # of dual pump seals:

Valves:

Total # of single pump seals:

Liquid:

Total # of single compressor seals:

Vapor:

Total # of dual compressor seals:

Assumptions: Terminal has 60% vapor valves; 40% liquid valves
Two connection points per valve; using 1.5 multiplier to account for remaining misc connections

TABLE 1

POTENTIAL EMISSION SOURCES
 KOCH NITROGEN COMPANY AMMONIA TERMINAL - CRAWFORDSVILLE, INDIANA

Company Name: Koch Nitrogen Company

Address: 4904 U.S. 231 North, Crawfordsville, IN 47933

MSOP: 107-26766-00053

Reviewer: Calculations submitted by source and reviewed by Sarah Conner, Ph. D.

Date: 9/30/2008

| <i>Equipment</i> | <i>Size, Model, S/N</i> | <i>Permit Status</i> | <i>326 IAC 2-1.1-3 (e) Exemption [unless noted otherwise]</i> |
|---|-------------------------|----------------------|---|
| Flare 1 | 12" Stackmatch | | Below Indiana Registration Thresholds 326 IAC 2-1.1-3(e)(1) |
| Equipment Component Fugitives- Ammonia | | | (39)(A)(ii) Pressurized storage tanks and piping systems for anhydrous ammonia (39)(B) Storage tanks that do not contain any VOCs or HAPs |
| Fugitive Ammonia - Truck Loading | | | (46)(I) Miscellaneous activities - Manual loading/unloading operations |
| Emergency Generator | 8 KW Natural Gas | | (5)(A)(i) Natural gas fired combustors < 10 MMBtu/hr |
| Road Fugitives | | | 326 IAC 2-7-1 (22)(B) fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source unless the source belongs to one of the 28 specified categories. |
| Cutting Torch and Acetylene Tank | Acetylene | | (5)(E) Combustion emissions from propulsion of mobile sources (34)(C) Brazing, soldering, or welding operations and associated equipment. (39)(A)(i) Pressurized storage tanks and piping systems for acetylene (39)(B) Storage tanks that do not contain any VOCs or HAPs |
| Diesel driven tractor | 30 HP Ford | | (38) Lawn care and landscaping activities (5)(E) Combustion emissions from propulsion of mobile sources |
| Natural Gas Fired Furnaces. Site buildings. | | | (5)(A)(i) Natural gas fired combustors < 10 MMBtu/hr |