



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant
DATE: November 30, 2007
RE: Indiana State Prison / 091-24741-00032
FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot 03/23/06



Mitchell E. Daniels, Jr.
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100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(317) 232-8603
(800) 451-6027
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New Source Review and Federally Enforceable State Operating Permit OFFICE OF AIR QUALITY

**Indiana State Prison
42 Park Row
Michigan City, Indiana 46361**

(herein known as the Permittee) is hereby authorized to construct and 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.: F091-24741-00032 | |
| Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality | Issuance Date: November 30, 2007 Expiration Date: November 30, 2012 |

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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 correctional facility.

| | |
|------------------------------|--|
| Source Address: | 42 Park Row, Michigan City, Indiana 46361 |
| Mailing Address: | P.O. Box 41, Michigan City, Indiana 46361 |
| General Source Phone Number: | (219) 874-7258 |
| SIC Code: | 9223 |
| County Location: | LaPorte |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Federally Enforceable State 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 [326 IAC 2-8-3(c)(3)]

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

- (a) Three (3) natural gas-fired boilers, identified as Boiler #2, #3 and #4. Boilers #2 and #3 constructed in 1969, Boiler #4 constructed in 1968, each with a maximum heat input capacity of 37.5 million British thermal units (MMBtu) per hour. Boilers #2 and #3 exhaust to a single stack, identified as Boiler #2, #3 Stack, Boiler #4 exhausts to Boiler #4 Stack.
- (b) One (1) corn fired boiler system including one (1) untreated corn fired boiler identified as Boiler # 1, with a maximum heat input capacity of 27.5 MMBtu/hr, and one (1) natural gas ignition burner with a maximum heat input capacity of 1.075 MMBtu/hr for cold boiler starts with emissions controlled by a cyclone, and exhausting to Boiler Stack #1. This facility is permitted in 2007.
- (c) One (1) corn handling and storage operation, approved to be constructed in 2007 and consisting of the following:
 - (1) One (1) truck unloading operation with a maximum throughput of 224,000 pounds of corn per hour.
 - (2) One (1) corn storage silo, with a maximum storage capacity of 762,552 pounds of corn (volumetric capacity 15,987 cubic feet), with emissions controlled by a baghouse and exhausting through one (1) stack.
 - (3) One (1) corn handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: five (5) augers, one (1) conveyor, one (1) bucket elevator, and one (1) metering bin.

- (d) One (1) ash disposal system, with a maximum throughput of 500 pounds of ash per hour, with emissions controlled by a cyclone including: three (3) augers. This facility is approved to be constructed in 2007.

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

This stationary source also includes the following insignificant activities:

- (a) Closed loop heating and cooling systems.
- (b) Heat exchanger cleaning and repair.
- (c) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (d) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (e) Emergency generators as follows:
 - (1) One (1) diesel fired emergency generator with maximum output rating of 465 horsepower. [326 IAC 2-8]
 - (2) One (1) diesel fired emergency generator with maximum output rating of 1600 horsepower. [326 IAC 2-8]

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 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4][326 IAC 2-8]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 and [326 IAC 2-8] when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

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

- (a) This permit, F091-24741-00032, 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.5 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.6 Enforceability [326 IAC 2-8-6]

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.7 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.8 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.9 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. 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.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (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 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.11 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 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.12 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.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

(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.14 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, and Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-0178 (ask for Compliance Section)
Facsimile Number: 317-233-6865
Northwest Regional Office phone: (219) 757-0265; fax: (219) 757-0267.

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

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

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

The notice fulfills the requirement of 326 IAC 2-8-4(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 the certification 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.
- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to F091-24741-00032 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.16 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.17 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

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

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

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.18 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 the certification 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.19 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 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 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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.20 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
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 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.21 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) through (d) 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

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

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

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). 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)(2), (c)(1), and (d).

- (b) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(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.22 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.23 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.24 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
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 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.25 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 within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) 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.26 Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]

- (a) The requirements to obtain a permit modification under 326 IAC 2-8-11.1 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.
- (b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.

B.27 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] [326 IAC 2-2]

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), 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.

(b) The potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(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 5-1-3 (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 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
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 Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

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

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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 2-8-4][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, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

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

The notification which shall be submitted by the Permittee does require the certification by 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 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

C.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(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.14 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.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

- (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.16 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 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 2-8-4(3)]

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

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years, 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.19 Compliance with 40 CFR 82 and 326 IAC 22-1

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

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (a) Three (3) natural gas-fired boilers, identified as Boiler #2, #3 and #4. Boilers #2 and #3 constructed in 1969, Boiler #4 constructed in 1968, each with a maximum heat input capacity of 37.5 million British thermal units (MMBtu) per hour. Boilers #2 and #3 exhaust to a single stack, identified as Boiler #2, #3 Stack, Boiler #4 exhausts to Boiler #4 Stack.
- (b) One (1) corn fired boiler system including one (1) untreated corn fired boiler identified as Boiler # 1, with a maximum heat input capacity of 27.5 MMBtu/hr, and one (1) natural gas ignition burner with a maximum heat input capacity of 1.075 MMBtu/hr for cold boiler starts with emissions controlled by a cyclone, and exhausting to Boiler Stack #1. This facility is permitted in 2007.

Insignificant Activity:

- (a) Emergency generators as follows:
 - (1) One (1) diesel fired emergency generator with maximum output rating of 465 horsepower.
 - (2) One (1) diesel fired emergency generator with maximum output rating of 1600 horsepower.

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

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

D.1.1 Particulate Matter Limitation (PM) [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3(d) (Particulate Matter Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from each of the three (3) natural gas fired boilers, identified as Boilers #2, #3, and #4, each constructed before 1972 shall be limited to 0.8 lbs PM/mmBtu.

D.1.2 Particulate Matter Limitation (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the corn fired boiler (Boiler #1) shall be limited to 0.30 lbs PM/MMBtu.

The limitation is based on the following equation:

$$Pt = 1.09/Q^{0.26}$$

where: Pt = maximum allowable particulate matter (PM) emitted per mmBtu heat input
Q = total source max. operation capacity rating (at the time when the boilers were constructed)

D.1.3 FESOP and PSD Minor Source Limit [326 IAC 2-8-4] [326 IAC 2-2]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable:

- (a) The total amount of fuel (corn and natural gas) burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that NOx emissions shall not exceed 90.3 tons per twelve (12) consecutive month period with compliance determined at the end of each month based on the equation in Condition D.1.6,

- (b) The total amount of fuel (corn and natural gas) burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that CO emissions shall not exceed 97.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month based on the equation in Condition D.1.7, and
- (c) The total diesel fuel input to the two (2) diesel generators shall be limited to less than 31,265.5 gallons per year. This fuel usage limit will limit the NOx emissions to less than 9.0 tons per year.

The above listed emission limitations for Boilers #1, #2, #3, and #4 combined with emissions from the two (2) insignificant emergency diesel-fired generators will limit the source-wide potential to emit of each NOx and CO to less than 100 tons per twelve (12) consecutive month period. Compliance with these limits makes 326 IAC 2-7 (Part 70) not applicable and classifies the Indiana State Prison as an existing minor source under 326 IAC 2-2 (PSD).

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and the cyclone controlling emissions from Boiler #1.

Compliance Determination Requirements

D.1.5 Particulate Control

In order to comply with Condition D.1.2, the cyclone for particulate control shall be in operation and control emissions from the corn-fired boiler (Boiler #1) at all times that the corn-fired boiler is in operation.

D.1.6 Nitrogen Oxides Emissions

Compliance with the NOx emissions limit in Condition D.1.3(a) shall be demonstrated by the summation of twelve (12) consecutive monthly emission rates calculated by the following equation:

$$E_{NOx} = \frac{(CE_{NOx} * Q_{Corn}) + (100 * Q_{NG})}{2000}$$

Where

- E_{NOx} = Emissions of NOx in tons per month
- CE_{NOx} = Compliance Emission Factor for NOx shall be 10.2 pounds NOx per ton Corn until an IDEM approved stack test is conducted. After a stack test is conducted, the EF shall be the lb/ton value as established by the stack test
- Q_{Corn} = Corn consumption in tons per month
- Q_{NG} = Natural Gas consumption in MMCF per month

D.1.7 Carbon Monoxide Emissions

Compliance with the CO emissions limit in Condition D.1.3(a) shall be demonstrated by the summation of twelve (12) consecutive monthly emission rates calculated by the following equation:

$$E_{CO} = \frac{(CE_{CO} * Q_{Corn}) + (84 * Q_{NG})}{2000}$$

Where

- E_{CO} = Emissions of CO in tons per month
- CE_{CO} = Compliance Emission Factor for CO shall be 8.16 pounds CO per ton Corn until an IDEM approved stack test is conducted
- Q_{Corn} = Corn consumption in tons per month. After a stack test is conducted, the EF shall be the lb/ton value as established by the stack test

Q_{NG} = Natural Gas consumption in MMCF per month

D.1.8 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

Unless the Commissioner determines that valid stack test results from a similar boiler operated by the Indiana Department of Corrections is representative of emissions from Boiler #1, within one hundred and eighty (180) days after initial startup of the corn-fired boiler (Boiler #1), the Permittee shall perform PM, PM₁₀, SO₂, NO_x, CO, VOC, and HCl testing for the corn-fired boiler utilizing methods as approved by the Commissioner. PM-10 includes filterable and condensable PM-10. All tests 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 Section C - Performance Testing.

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

D.1.9 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have 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). Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.1.10 Visible Emissions Notations

- (a) When combusting corn, daily visible emission notations of the Boiler #1 stack exhaust shall be performed 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 in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.11 Record Keeping Requirements

- (a) To document compliance with Condition D.1.3, the Permittee shall maintain records of the amount of corn and natural gas burned in the boilers and the amount of diesel fuel burned in the insignificant emergency generators each month, as well as the calculated twelve (12) consecutive month NO_x and CO emissions.
- (b) To document compliance with Condition D.1.8, the Permittee shall maintain a daily record of visible emission notations for Boiler #1 stack exhaust. The Permittee shall include in each 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).

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

D.1.12 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.3 and the natural gas fired boiler certification, shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

D.1.13 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1 for the corn fired boiler (Boiler #1) except as otherwise specified in 40 CFR Part 60, Subpart Dc.
- (b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

D.1.14 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units Requirements [40 CFR Part 60, Subpart Dc] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart Dc, the Permittee shall comply with the provisions of Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, which are incorporated by reference as 326 IAC 12 for the corn fired boiler (Boiler #1) as specified as follows.

§ 60.40c Applicability and delegation of authority.

- (a) Except as provided in paragraph (d) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).
- (b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, Sec. 60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.
- (c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (Sec. Sec. 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in Sec. 60.41c.
- (d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under Sec. 60.14.

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see Sec. 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (i.e., the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see Sec. 60.17).

Dry flue gas desulfurization technology means a SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO₂ control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under Sec. 60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means: (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see Sec. 60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO₂ emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see Sec. 60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO₂.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by Sec. 60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under Sec. 60.42c, or Sec. 60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of Sec. 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in Sec. 60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO₂ standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

D.1.15 One Time Deadlines Relating to Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc]

The Permittee shall comply with the following requirements by the dates listed below:.

- (a) Pursuant to 40 CFR 60.7(a)(1), submit notification of the date of construction of corn-fired boiler (Boiler #1), no later than 30 days after commencement of construction.
- (b) Pursuant to 40 CFR 60.7(a)(3), submit notification of the date of initial startup of corn fired boiler (Boiler #1), within 15 days of startup. This notification shall include the design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility, if applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c, and the annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (c) One (1) corn handling and storage operation, approved to be constructed in 2007 and consisting of the following:
 - (1) One (1) truck unloading operation with a maximum throughput of 224,000 pounds of corn per hour.
 - (2) One (1) corn storage silo, with a maximum storage capacity of 762,552 pounds of corn (volumetric capacity 15,987 cubic feet), with emissions controlled by a baghouse and exhausting through one (1) stack.
 - (3) One (1) corn handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: five (5) augers, one (1) conveyor, one (1) bucket elevator, and one (1) metering bin.
- (d) One (1) ash disposal system, with a maximum throughput of 500 pounds of ash per hour, with emissions controlled by a cyclone including: three (3) augers. This facility is approved to be constructed in 2007.

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

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

D.2.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacture Processes), the allowable particulate emission rate from each process shall be limited based on the following equations:

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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

or

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The following table shows the maximum process weight rate and allowable particulate emission rate for each emission unit:

| Emission Unit | Process Weight Rate (tons/hr) | Allowable PM Emissions (326 IAC 6-3-2) (lb/hr) |
|---------------------------|-------------------------------|--|
| Truck Unloading Operation | 112 | 52.4 |
| Corn Handling System | 126 | 53.6 |
| Ash Handling System | 0.25 | 1.62 |

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

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

Source Name: Indiana State Prison
Source Address: 42 Park Row, Michigan City, Indiana 46361
Mailing Address: P.O. Box 41, Michigan City, Indiana 46361
FESOP Permit No.: F091-24741-00032

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
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: Indiana State Prison
Source Address: 42 Park Row, Michigan City, Indiana 46361
Mailing Address: P.O. Box 41, Michigan City, Indiana 46361
FESOP Permit No.: F091-24741-00032

This form consists of 2 pages

Page 1 of 2

- | |
|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <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: _____

A certification is not required for this report.

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
SEMI- ANNUAL NATURAL GAS FIRED BOILER CERTIFICATION**

Source Name: Indiana State Prison
Source Address: 42 Park Row, Michigan City, Indiana 46361
Mailing Address: P.O. Box 41, Michigan City, Indiana 46361
FESOP Permit No.: F091-24741-00032

| |
|--|
| <input type="checkbox"/> Natural Gas Only <input type="checkbox"/> Alternate Fuel burned From: _____ To: _____ |
|--|

| |
|---|
| I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. |
| Signature: _____ |
| Printed Name: _____ |
| Title/Position: _____ |
| Date: _____ |

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Indiana State Prison
Source Address: 42 Park Row, Michigan City, Indiana 46361
Mailing Address: P.O. Box 41, Michigan City, Indiana 46361
FESOP Permit No.: F091-24741-00032
Facility: Boilers #1, #2, #3, and #4
Parameter: Corn or equivalent fuel usage
Limit: (a) The total amount of fuel (corn and natural gas) burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that NO_x emissions shall not exceed 90.3 tons per twelve (12) consecutive month period with compliance determined at the end of each month based on the following equation.
(b) The total amount of fuel (corn and natural gas) burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that CO emissions shall not exceed 97.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month based on the following equation.

$$E_{NOx} = \frac{(CE_{NOx} * Q_{Corn}) + (100 * Q_{NG})}{2000}$$

Where

E_{NOx} = Emissions of NO_x in tons per month
 CE_{NOx} = Compliance Emission Factor for NO_x shall be 10.2 pounds NO_x per ton Corn until an IDEM approved stack test is conducted. After a stack test is conducted, the EF shall be the lb/ton value as established by the stack test

Q_{Corn} = Corn consumption in tons per month
 Q_{NG} = Natural Gas consumption in MMCF per month

$$E_{CO} = \frac{(CE_{CO} * Q_{Corn}) + (84 * Q_{NG})}{2000}$$

Where

E_{CO} = Emissions of CO in tons per month
 CE_{CO} = Compliance Emission Factor for CO shall be 8.16 pounds CO per ton Corn until an IDEM approved stack test is conducted. After a stack test is conducted, the EF shall be the lb/ton value as established by the stack test

Q_{Corn} = Corn consumption in tons per month
 Q_{NG} = Natural Gas consumption in MMCF per month

This FESOP Quarterly Report consists of 2 pages.

YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---------|--------------------------|----------------------------------|------------------------------|
| | NOx Emissions This Month | NOx Emissions Previous 11 Months | NOx Emissions 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---------|-------------------------|---------------------------------|-----------------------------|
| | CO Emissions This Month | CO Emissions Previous 11 Months | CO Emissions 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Indiana State Prison
Source Address: 42 Park Row, Michigan City, Indiana 46361
Mailing Address: P.O. Box 41, Michigan City, Indiana 46361
FESOP Permit No.: F091-24741-00032
Facility: Two (2) diesel fired emergency generators
Parameter: Diesel fuel usage
Limit: Total input of diesel fuel to the two (2) emergency generators shall be limited to 31,265.5 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---------|------------------------------|--------------------------------------|----------------------------------|
| | Diesel Fuel Usage This Month | Diesel Fuel Usage Previous 11 Months | Diesel Fuel Usage 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

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

Source Name: Indiana State Prison
 Source Address: 42 Park Row, Michigan City, Indiana 46361
 Mailing Address: P.O. Box 41, Michigan City, Indiana 46361
 FESOP Permit No.: F091-24741-00032

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

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

Attach a signed certification to complete this report.

Mail to: Permit Administration & Development Section
Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Indiana State Prison
42 Park Row
Michigan City, Indiana 46361

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____.
(Title) (Company Name)
3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make
these representations on behalf of _____.
(Company Name)
4. I hereby certify that Indiana State Prison located at 42 Park Row, Michigan City, Indiana 46361, completed construction of the corn fired boiler and associated corn and ash handling operations on _____ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on _____ and as permitted pursuant to New Source Review Permit and Federally Enforceable State Operating Permit No. F091-24741-00032, Plant ID No. 091-00032 issued on _____.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature _____

Date _____

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of
Indiana on this _____ day of _____, 20 _____.

My Commission expires: _____.

Signature _____

Name (typed or printed)

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

Addendum to the
Technical Support Document (TSD) for a New Source Review
and Federal Enforceable State Operating Permit (FESOP)

| | |
|----------------------------|--|
| Source Name: | Indiana State Prison |
| Source Location: | 42 Park Row, Michigan City, Indiana 46361 |
| County: | LaPorte |
| SIC Code: | 9223 |
| Permit Renewal No.: | F091-24741-00032 |
| Permit Reviewer: | Adeel Yousuf / EVP |

On September 20, 2007, the Office of Air Quality (OAQ) had a notice published in the News Dispatch, Michigan City, Indiana, stating that Indiana State Prison had applied for the FESOP permit relating to the operation of a correctional facility. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On October 18, 2007, Kathy Moore of KERAMIDA Environmental, Inc. submitted comments on the proposed FESOP on behalf of Indiana State Prison. The summary of the comments and corresponding responses is as follows (bolded language has been added and the language with a line through it has been deleted):

Comment 1

Permit - Section A.1:

The U.S EPA designated LaPorte County as attainment for the 8-hour ozone NAAQS effective July 17, 2007. At the September 5, 2007 Indiana Air Pollution Control Board meeting, IDEM presented its emergency rule redesignating LaPorte County to attainment for the 8-hour ozone standard. The rule was subsequently filed with the Secretary of State. Please revise the sourcelocation status in Section A.2 to reflect this redesignation.

Response 1

On September 5, 2007 the Indiana Air Pollution Control Board finalized a temporary emergency rule to redesignate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard. Since this source is located in LaPorte county, Section A.1 of the permit has been revised as follows:

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary correctional facility.

| | |
|-------------------------|--|
| County Location: | LaPorte |
| Source Location Status: | Nonattainment for 8-hour ozone standard Attainment for all other criteria pollutants |

Comment 2

Permit - Section A.2 & Section D:

Indiana State Prison requests a change to the description of the natural gas fired boilers to correct the date of construction and more accurately reflect the exhaust stacks for the boilers. Please revise the description of the boilers in Condition A.2(a) and in the appropriate D section of the permit as follows:

- (a) Three (3) natural gas-fired boilers, identified as Boiler #2, #3 and #4, ~~each~~ **Boilers #2 and #3** constructed in 1969, **Boiler #4 constructed in 1968**, each with a maximum heat input capacity of 37.5 million British thermal units (MMBtu) per hour. ~~Boilers #2 and #3 exhaust to a single stack, identified as Boiler #2, #3 Stack, Boiler #4 and each exhausting exhausts to Boiler #2, #3, #4 Stack.~~

Please revise the description of the corn fired boiler to reflect that the corn-fired boiler will receive its construction permit in 2007 as follows:

- (b) One (1) corn fired boiler system including one (1) untreated corn fired boiler identified as Boiler # 1, with a maximum heat input capacity of 27.5 MMBtu/hr, and one (1) natural gas ignition burner with a maximum heat input capacity of 1.075 MMBtu/hr for cold boiler starts with emissions controlled by a cyclone, and exhausting to Boiler Stack #1. This facility is ~~approved to be constructed~~ **permitted** in 2007.

A pneumatic fuel transfer system will not be included as part of the corn handling system. Please revise the description of this system as follows:

- (c) One (1) corn handling and storage operation, approved to be constructed in 2007 and consisting of the following:

- (3) One (1) corn handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: five (5) augers, one (1) conveyor, one (1) bucket elevator, ~~one (1) pneumatic fuel transfer system,~~ and one (1) metering bin.

Response 2

Sections A.2, D.1 and D.2 of the permit have been revised as requested:

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) Three (3) natural gas-fired boilers, identified as Boiler #2, #3 and #4, ~~each~~ **Boilers #2 and #3** constructed in 1969, **Boiler #4 constructed in 1968**, each with a maximum heat input capacity of 37.5 million British thermal units (MMBtu) per hour. ~~Boilers #2 and #3 exhaust to a single stack, identified as Boiler #2, #3 Stack, Boiler #4 and each exhausting exhausts to Boiler #2, #3, #4 Stack.~~
- (b) One (1) corn fired boiler system including one (1) untreated corn fired boiler identified as Boiler # 1, with a maximum heat input capacity of 27.5 MMBtu/hr, and one (1) natural gas ignition burner with a maximum heat input capacity of 1.075 MMBtu/hr for cold boiler starts with emissions controlled by a cyclone, and exhausting to Boiler Stack #1. This facility is ~~approved to be constructed~~ **permitted** in 2007.
- (c) One (1) corn handling and storage operation, approved to be constructed in 2007 and consisting of the following:

- (3) One (1) corn handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: five (5) augers, one (1) conveyor, one (1) bucket elevator, ~~one (1) pneumatic fuel transfer system~~, and one (1) metering bin.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (a) Three (3) natural gas-fired boilers, identified as Boiler #2, #3 and #4, ~~each~~ **Boilers #2 and #3** constructed in 1969, **Boiler #4 constructed in 1968**, each with a maximum heat input capacity of 37.5 million British thermal units (MMBtu) per hour. **Boilers #2 and #3 exhaust to a single stack, identified as Boiler #2, #3 Stack**, Boiler #4 and ~~each~~ **exhausting exhausts** to Boiler #2, #3, #4 Stack.
- (b) One (1) corn fired boiler system including one (1) untreated corn fired boiler identified as Boiler #1, with a maximum heat input capacity of 27.5 MMBtu/hr, and one (1) natural gas ignition burner with a maximum heat input capacity of 1.075 MMBtu/hr for cold boiler starts with emissions controlled by a cyclone, and exhausting to Boiler Stack #1. This facility is ~~approved to be constructed~~ **permitted** in 2007.

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

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (c) One (1) corn handling and storage operation, approved to be constructed in 2007 and consisting of the following:

- (3) One (1) corn handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: five (5) augers, one (1) conveyor, one (1) bucket elevator, ~~one (1) pneumatic fuel transfer system~~, and one (1) metering bin.

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

Comment 3

Permit - Section B:

Please add the following language to Condition B.10 (Certification) to allow Indiana State Prison to include either the Certification Form that is included in the permit or an equivalent form:

- (b) One (1) certification shall be included, using the attached Certification Form **or its equivalent**, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

Response 3

Condition B.10 of the permit has been revised as requested:

B.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (b) One (1) certification shall be included, using the attached Certification Form **or its equivalent**, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

Comment 4

Because of the uncertainty of the emission factors that were used as a basis for the establishing the limits in the FESOP, please revise Condition D.1.3 and Condition D.1.9 (Record Keeping) as shown below. In combination with this change, please add Conditions D.1.6 and D.1.7. These changes will allow for increased flexibility using an emission factor based approach to demonstrate compliance with the NOx and CO limits for the boilers and insignificant emergency generators. In addition, because LaPorte County has been redesigned to attainment for the 8-hour ozone NAAQS, please remove the references to Minor Emission Offset Limits (326 IAC 2-3).

~~D.1.3 FESOP and Minor Emission Offset Limits [326 IAC 2-8-4] [326 IAC 2-3]~~

~~Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable, the following limits shall apply:~~

- ~~(a) The CO emissions from Boilers #2, #3, and #4 shall not exceed 84.0 lb/MMSCF.~~
- ~~(b) The NOx emissions from Boilers #2, #3, and #4 shall not exceed 100.0 lb/MMSCF.~~
- ~~(c) The CO emissions from Boiler #1 shall not exceed 0.60 lb/MMBtu.~~
- ~~(d) The NOx emissions from Boiler #1 shall not exceed 0.75 lb/MMBtu.~~
- ~~(e) The PM10 emissions from Boiler #1 shall not exceed 0.36 lb/MMBtu.~~
- ~~(f) The usage of shelled untreated corn and fuel equivalent in the boilers identified as Boiler #1, #2, #3, and #4 shall be limited to 17,713.15 tons of corn per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, NOx and CO emissions are limited below 90.34 and 97.0 tons per year, respectively. For purposes of determining compliance, the following shall apply:~~
- ~~every MMScf of natural gas burned shall be equivalent to 9.8 tons of shelled untreated corn based on the NOx emission factor, such that the total NOx and CO emissions do not exceed the limit specified.~~
- ~~(g) The total diesel input to the two (2) diesel generators shall be limited to less than 31,265.5 gallons per twelve (12) consecutive month period with compliance determined at the end of each month. This fuel usage limit will limit the NOx emissions to less than 9.0 tons per year.~~

~~Compliance with the above conditions combined with the potential emissions of PM10, CO, and NOx from all other emissions units at this source, shall limit the source-wide PM10, CO and NOx emissions to less than 100 tons per twelve (12) consecutive month period, and render the requirements of 326 IAC 2-7 (Part 70) and 326 IAC 2-3 (Emissions Offset) not applicable.~~

~~D.1.3 FESOP and PSD Minor Source Limit [326 IAC 2-8-4] [326 IAC 2-2]~~

~~Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable:~~

- (a) The total amount of fuel burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that NOx emissions shall not exceed 90.3 tons per twelve (12) consecutive month period,
- (b) The total amount of fuel burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that CO emissions shall not exceed 97.0 tons per twelve (12) consecutive month period, and
- (c) The total diesel fuel input to the two (2) diesel generators shall be limited to less than 31,265.5 gallons per year. This fuel usage limit will limit the NOx emissions to less than 9.0 tons per year.

The above listed emission limitations for Boilers #1, #2, #3, and #4 and the two (2) insignificant emergency diesel-fired generators will limit the source-wide potential to emit of each NOx and CO to less than 100 tons per twelve (12) consecutive month period. Compliance with these limits makes 326 IAC 2-7 (Part 70) not applicable and classifies the Indiana State Prison as an existing minor source under 326 IAC 2-2 (PSD).

D.1.6 Nitrogen Oxides Emissions

Compliance with the NOx emissions limit in Condition D.1.3(a) shall be demonstrated by the summation of twelve (12) consecutive monthly emission rates calculated by the following equation:

$$E_{NOx} = \frac{(CE_{NOx} * Q_{Corn}) + (100 * Q_{NG})}{2000}$$

Where

- E_{NOx} = Emissions of NOx in tons per month
- CE_{NOx} = Compliance Emission Factor for NOx, assumed to 10.2 pounds NOx per ton Corn, unless a different value is established by stack test or other method approved by the Commissioner
- Q_{Corn} = Corn consumption in tons per month
- Q_{NG} = Natural Gas consumption in MMCF per month

D.1.7 Carbon Monoxide Emissions

Compliance with the CO emissions limit in Condition D.1.3(a) shall be demonstrated by the summation of twelve (12) consecutive monthly emission rates calculated by the following equation:

$$E_{CO} = \frac{(CE_{CO} * Q_{Corn}) + (84 * Q_{NG})}{2000}$$

Where

- E_{CO} = Emissions of CO in tons per month
- CE_{CO} = Compliance Emission Factor for CO, assumed to 8.16 pounds CO per ton Corn, unless a different value is established by stack test or other method approved by the Commissioner
- Q_{Corn} = Corn consumption in tons per month
- Q_{NG} = Natural Gas consumption in MMCF per month

D.1.9 Record Keeping Requirements

- (a) To document compliance with Condition D.1.3, the Permittee shall maintain records of the amount of corn ~~or equivalent fuel usage for each boiler~~ and **natural gas burned in the boilers** and the **amount of diesel fuel usage burned in** ~~for~~ the insignificant emergency generators **each month**.

Condition D.1.5 (Particulate Control) includes an incorrect identification number for the corn-fired boiler. The correct ID number is Boiler #1.

D.1.5 Particulate Control

In order to comply with Condition D.1.2, the cyclone for particulate control shall be in operation and control emissions from the corn-fired boiler (~~Boiler #4~~ **Boiler #1**) at all times that the corn-fired boiler is in operation.

Indiana State Prison requests the addition of the following language to Condition D.1.8 (Testing Requirements) to allow for the use of IDEM approved emission data in lieu of testing if such emission data becomes available.

D.1.6 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

Unless the Commissioner determines that valid stack test results from a similar boiler operated by the Indiana Department of Corrections is representative of emissions from Boiler #1, Within within one hundred and eighty (180) days after initial startup of the corn-fired boiler (Boiler #1), the Permittee shall perform PM, PM₁₀, SO₂, NO_x, CO, VOC, and HCl testing for the corn-fired boiler utilizing methods as approved by the Commissioner. PM-10 includes filterable and condensable PM-10. All tests 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 Section C - Performance Testing.

Response 4

Condition D.1.3 has been revised to remove the emission factors and corn usage amount as requested. Conditions D.1.6 and D.1.7 have been added under the compliance determination section to demonstrate compliance with NO_x and CO emission limits contained in Condition D.1.3.

Condition D.1.9 (now renumbered D.1.11) has also been revised to remove reference to equivalent fuel usage as per revised language in Condition D.1.3.

Condition D.1.5 has been revised to list the correct ID for the corn-fired boiler.

Condition D.1.6 (now renumbered D.1.8) has been revised to provide flexibility to the source in testing if the stack test data becomes available for the similar type of corn-fired boiler as permitting at Indiana State Prison.

All the conditions have been re-numbered accordingly.

~~D.1.3 FESOP and Minor Emission Offset Limits [326 IAC 2-8-4] [326 IAC 2-3]~~

~~Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable, the following limits shall apply:~~

- ~~(a) — The CO emissions from Boilers #2, #3, and #4 shall not exceed 84.0 lb/MMSCF.~~
- ~~(b) — The NO_x emissions from Boilers #2, #3, and #4 shall not exceed 100.0 lb/MMSCF.~~
- ~~(c) — The CO emissions from Boiler #1 shall not exceed 0.60 lb/MMBtu.~~
- ~~(d) — The NO_x emissions from Boiler #1 shall not exceed 0.75 lb/MMBtu.~~
- ~~(e) — The PM₁₀ emissions from Boiler #1 shall not exceed 0.36 lb/MMBtu.~~
- ~~(f) — The usage of shelled untreated corn and fuel equivalent in the boilers identified as Boiler #1, #2, #3, and #4 shall be limited to 17,713.15 tons of corn per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, NO_x and CO emissions are limited below 90.34 and 97.0 tons per year, respectively. For purposes of determining compliance, the following shall apply:~~

~~every MMScf of natural gas burned shall be equivalent to 9.8 tons of shelled untreated corn based on the NOx emission factor, such that the total NOx and CO emissions do not exceed the limit specified.~~

- ~~(g) — The total diesel input to the two (2) diesel generators shall be limited to less than 31,265.5 gallons per twelve (12) consecutive month period with compliance determined at the end of each month. This fuel usage limit will limit the NOx emissions to less than 9.0 tons per year.~~

~~Compliance with the above conditions combined with the potential emissions of PM10, CO, and NOx from all other emissions units at this source, shall limit the source-wide PM10, CO and NOx emissions to less than 100 tons per twelve (12) consecutive month period, and render the requirements of 326 IAC 2-7 (Part 70) and 326 IAC 2-3 (Emissions Offset) not applicable.~~

D.1.3 FESOP and PSD Minor Source Limit [326 IAC 2-8-4] [326 IAC 2-2]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable:

- (a) The total amount of fuel (corn and natural gas) burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that NOx emissions shall not exceed 90.3 tons per twelve (12) consecutive month period with compliance determined at the end of each month based on the equation in Condition D.1.6,**
- (b) The total amount of fuel (corn and natural gas) burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that CO emissions shall not exceed 97.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month based on the equation in Condition D.1.7, and**
- (c) The total diesel fuel input to the two (2) diesel generators shall be limited to less than 31,265.5 gallons per year. This fuel usage limit will limit the NOx emissions to less than 9.0 tons per year.**

The above listed emission limitations for Boilers #1, #2, #3, and #4 combined with emissions from the two (2) insignificant emergency diesel-fired generators will limit the source-wide potential to emit of each NOx and CO to less than 100 tons per twelve (12) consecutive month period. Compliance with these limits makes 326 IAC 2-7 (Part 70) not applicable and classifies the Indiana State Prison as an existing minor source under 326 IAC 2-2 (PSD).

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and the cyclone controlling emissions from Boiler #1.

Compliance Determination Requirements

D.1.5 Particulate Control

In order to comply with Condition D.1.2, the cyclone for particulate control shall be in operation and control emissions from the corn-fired boiler (~~Boiler #4~~ **Boiler #1) at all times that the corn-fired boiler is in operation.**

D.1.6 Nitrogen Oxides Emissions

Compliance with the NOx emissions limit in Condition D.1.3(a) shall be demonstrated by the summation of twelve (12) consecutive monthly emission rates calculated by the following equation:

$$E_{NOx} = \frac{(CE_{NOx} * Q_{Corn}) + (100 * Q_{NG})}{2000}$$

Where

- E_{NOx} = Emissions of NOx in tons per month
 CE_{NOx} = Compliance Emission Factor for NOx shall be 10.2 pounds NOx per ton Corn until an IDEM approved stack test is conducted. After a stack test is conducted, the EF shall be the lb/ton value as established by the stack test
 Q_{Corn} = Corn consumption in tons per month
 Q_{NG} = Natural Gas consumption in MMCF per month

D.1.7 Carbon Monoxide Emissions

Compliance with the CO emissions limit in Condition D.1.3(a) shall be demonstrated by the summation of twelve (12) consecutive monthly emission rates calculated by the following equation:

$$E_{CO} = \frac{(CE_{CO} * Q_{Corn}) + (84 * Q_{NG})}{2000}$$

Where

- E_{CO} = Emissions of CO in tons per month
 CE_{CO} = Compliance Emission Factor for CO shall be 8.16 pounds CO per ton Corn until an IDEM approved stack test is conducted. After a stack test is conducted, the EF shall be the lb/ton value as established by the stack test
 Q_{Corn} = Corn consumption in tons per month
 Q_{NG} = Natural Gas consumption in MMCF per month

D.1.68 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

Unless the Commissioner determines that valid stack test results from a similar boiler operated by the Indiana Department of Corrections is representative of emissions from Boiler #1, ~~Within~~ within one hundred and eighty (180) days after initial startup of the corn-fired boiler (Boiler #1), the Permittee shall perform PM, PM10, SO₂, NOx, CO, VOC, and HCl testing for the corn-fired boiler utilizing methods as approved by the Commissioner. PM-10 includes filterable and condensable PM-10. All tests 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 Section C - Performance Testing.

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

D.1.79 Cyclone Failure Detection

D.1.810 Visible Emissions Notations

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.911 Record Keeping Requirements

- (a) To document compliance with Condition D.1.3, the Permittee shall maintain records of the amount of corn or equivalent fuel usage for each boiler and **natural gas burned in the boilers** and the **amount of diesel fuel usage burned in** for the insignificant emergency generators **each month, as well as the calculated twelve (12) consecutive month NOx and CO emissions.**

- (b) To document compliance with Condition D.1.810, the Permittee shall maintain a daily record of visible emission notations for Boiler #1 stack exhaust. The Permittee shall include in each 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).
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

To be consistent with above listed changes, FESOP Quarterly Report form has been updated as follows:

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

FESOP Quarterly Report

Source Name: Indiana State Prison
Source Address: 42 Park Row, Michigan City, Indiana 46361
Mailing Address: P.O. Box 41, Michigan City, Indiana 46361
FESOP Permit No.: F091-24741-00032
Facility: Boilers #1, #2, #3, and #4
Parameter: Corn or equivalent fuel usage
Limit: ~~The usage of shelled untreated corn and fuel equivalent in the boilers identified as Boiler #1, #2, #3, and #4 shall be limited to 17,713.15 tons of corn per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, NOx and CO emissions are limited below 90.34 and 97.0 tons per year, respectively. For purposes of determining compliance, the following shall apply:~~

~~every MMScf of natural gas burned shall be equivalent to 9.8 tons of shelled untreated corn based on the NOx emission factor, such that the total NOx and CO emissions do not exceed the limit specified.~~

- (a) The total amount of fuel (corn and natural gas) burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that NOx emissions shall not exceed 90.3 tons per twelve (12) consecutive month period with compliance determined at the end of each month based on the following equation.**
- (b) The total amount of fuel (corn and natural gas) burned by Boiler #1, Boiler # 2, Boiler # 3, Boiler # 4 shall be limited such that CO emissions shall not exceed 97.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month based on the following equation.**

$$E_{NOx} = \frac{(CE_{NOx} * Q_{Corn}) + (100 * Q_{NG})}{2000}$$

Where

E_{NOx} = Emissions of NOx in tons per month
 CE_{NOx} = Compliance Emission Factor for NOx shall be 10.2 pounds NOx per ton Corn until an IDEM approved stack test is conducted. After a stack test is conducted, the EF shall be the lb/ton value as established by the stack test
 Q_{Corn} = Corn consumption in tons per month
 Q_{NG} = Natural Gas consumption in MMCF per month

$$E_{CO} = \frac{(CE_{CO} * Q_{Corn}) + (84 * Q_{NG})}{2000}$$

Where

- E_{CO} = Emissions of CO in tons per month
 CE_{CO} = Compliance Emission Factor for CO shall be 8.16 pounds CO per ton Corn until an IDEM approved stack test is conducted. After a stack test is conducted, the EF shall be the lb/ton value as established by the stack test
 Q_{Corn} = Corn consumption in tons per month
 Q_{NG} = Natural Gas consumption in MCF per month

YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---------|--|--|--|
| | Corn Usage NOx Emissions This Month | Corn Usage NOx Emissions Previous 11 Months | Corn Usage NOx Emissions 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---------|--------------------------------|--|------------------------------------|
| | CO Emissions This Month | CO Emissions Previous 11 Months | CO Emissions 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

Comment 5

Technical Support Document (TSD):

The U.S EPA designated LaPorte County as attainment for the 8-hour ozone NAAQS effective July 17, 2007. At the September 5, 2007 Indiana Air Pollution Control Board meeting, IDEM presented its emergency rule redesignating LaPorte County to attainment for the 8-hour ozone standard. The rule was subsequently filed with the secretary of State. Please revise the TSD to reflect this redesignation.

Indiana State Prison requests that the description changes for the boilers and the fuel handling system that are noted above be revised in the Technical Support Document.

Please revise the table in the TSD that includes the stack information as shown below. Boilers #2 and #3 exhaust to a single stack (Boiler #2, #3 Stack) and Boiler #4 exhausts to its own stack.

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (°F) |
|---------------------|----------------|---------------|-----------------|------------------|------------------|
| Boiler #2, #3 Stack | Boilers #2, #3 | 48.0 | 3.0 | 14,240 | 350 |
| Boiler #4 Stack | Boiler #4 | 48.0 | 3.0 | 14,240 | 350 |
| Boiler # 1 Stack | Boiler #1 | 74.81 | 2.5 | 14,240 | 525 |

Appendix A, page 9 of 9:

On page 9 of 9 in Appendix A to the Technical Support Document, Indiana State Prison requests that ID number for the corn fired boiler changed from Boiler 4 to Boiler 1.

Response 5

While the preceding specified revisions have been made to the permit, the Technical Support Document (TSD) remains unaltered. The OAQ prefers that the TSD reflect the draft version of the permit that was placed on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision. As such, certain sections of the TSD are replicated and revised as shown below. These revisions provide for clarity and consistency with the permit revisions described above.

1. The TSD already reflects LaPorte county as being attainment for 8-hour ozone, therefore there is no need to make any updates to the County Attainment Status section of the TSD.
2. Description changes for the boilers and the fuel handling system are reflected as follows:

| |
|----------------------------------|
| Description of New Source Review |
|----------------------------------|

Permitted Emission Units and Pollution Control Equipment

The source has the following existing emission units and pollution control devices:

- (a) Three (3) natural gas-fired boilers, identified as Boiler #2, #3 and #4., **each Boilers #2 and #3 constructed in 1969, Boiler #4 constructed in 1968**, each with a maximum heat input capacity of 37.5 million British thermal units (MMBtu) per hour., **Boilers #2 and #3 exhaust to a single stack, identified as Boiler #2, #3 Stack, Boiler #4 and each exhausting exhausts to Boiler #2, #3, #4 Stack.**

New Emission Units and Pollution Control Equipment Receiving New Source Review Approval

The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-8-4(11):

- (a) One (1) corn fired boiler system including one (1) untreated corn fired boiler identified as Boiler # 1, with a maximum heat input capacity of 27.5 MMBtu/hr, and one (1) natural gas ignition burner with a maximum heat input capacity of 1.075 MMBtu/hr for cold boiler starts with emissions controlled by a cyclone, and exhausting to Boiler Stack #1. This facility is ~~approved to be constructed~~ **permitted** in 2007.
- (b) One (1) corn handling and storage operation, approved to be constructed in 2007 and consisting of the following:
 - ***
 - (3) One (1) corn handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: five (5) augers, one (1) conveyor, one (1) bucket elevator, ~~one (1) pneumatic fuel transfer system,~~ and one (1) metering bin.

3. The correct stack information is reflected under the Stack Summary section of the TSD as follows:

| Stack Summary | | | | | |
|-------------------------|------------------------|---------------|-----------------|------------------|------------------|
| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (°F) |
| Boiler #2, #3, #4 Stack | Boilers #2, #3, and #4 | 48.0 | 3.0 | 14,240 | 350 |
| Boiler #4 Stack | Boiler #4 | 48.0 | 3.0 | 14,240 | 350 |
| Boiler # 1 Stack | Boiler #1 | 74.81 | 2.5 | 14,240 | 525 |

4. Page 9 of 9 of TSD, Appendix A has been revised to list the correct ID as Boiler #1 for the corn-fired boilers (see page 1 of 1 of ATSD, Appendix A).

**Appendix A: Emission Calculations
Equivalent Calculation**

Company Name: Indiana State Prison
Address: 42 Park Row, Michigan City, Indiana 46361
Permit No.: 091-24741
Plt ID: 091-00032
Reviewer: Adeel Yousuf / EVP
Date: 10/23/07

Equivalents

| | NOx Emission Factor | | one MMSCF of natural gas is equal to | Units of Measure | | Units of Measure |
|----------------------------|---------------------------|----------|--|---------------------|-----|---------------------|
| Boilers B2-B4, Natural Gas | 100 | lb/MMSCF | - | - | - | - |
| Boiler B1, Corn | 0.75 | lb/MMBtu | 133 | MMBtu of Corn | 9.8 | tons of Corn |

1 ton of Corn burned is equal to: **0.1020** MMScf of natural gas based on NOx emission factor

| | Energy Content |
|-------------|-----------------|
| Natural Gas | 1,020 Btu/cu ft |
| Corn | 6,800 Btu/lb |

Emission factors are from AP-42, Chapter 1.4 - Natural Gas Combustion; 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 (July 1998).

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a New Source Review and Federal Enforceable State Operating Permit (FESOP)

Source Description and Location

| | |
|----------------------------|--|
| Source Name: | Indiana State Prison |
| Source Location: | 42 Park Row, Michigan City, Indiana 46361 |
| County: | LaPorte |
| SIC Code: | 9223 |
| Permit Renewal No.: | F091-24741-00032 |
| Permit Reviewer: | Adeel Yousuf / EVP |

The Office of Air Quality (OAQ) has reviewed the FESOP application from Indiana State Prison relating to the operation of a correctional facility.

On May 3, 2007, Indiana State Prison submitted an application to transition from SSOA to a FESOP involving a conversion of one (1) existing natural gas fired boiler rated at 37.5 MMBtu/hr to a corn fired boiler rated at 27.5 MMBtu/hour. Indiana State Prison was issued SSOA No. 091-9168-00032 on January 23, 1998.

Existing Approvals

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

- (a) Construction Permit Interim No. 091-8844I, issued on November 26, 1997; and
- (b) SSOA No. 091-9168-00037, issued on January 23, 1998.

County Attainment Status

The source is located in LaPorte County

| Pollutant | Status |
|-------------------|------------------------|
| PM ₁₀ | Attainment |
| PM _{2.5} | Attainment |
| SO ₂ | Attainment |
| NO _x | Moderate Nonattainment |
| 8-hour Ozone | Attainment |
| CO | Attainment |
| Lead | Attainment |

- (a) LaPorte County has been classified as unclassifiable or attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM_{2.5} emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions. See the State Rule Applicability – Entire Source section.

- (b) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NOx emissions are considered when evaluating the rule applicability relating to ozone standards. LaPorte County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.
- (c) LaPorte 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. See the State Rule Applicability – Entire Source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD or Emission Offset applicability.

| |
|---|
| Description of New Source Review |
|---|

Permitted Emission Units and Pollution Control Equipment

The source has the following existing emission units and pollution control devices:

- (a) Three (3) natural gas-fired boilers, identified as Boiler #2, #3 and #4, each constructed in 1969, each with a maximum heat input capacity of 37.5 million British thermal units (MMBtu) per hour, and each exhausting to Boiler #2, #3, #4 Stack.

New Emission Units and Pollution Control Equipment Receiving New Source Review Approval

The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-8-4(11):

- (a) One (1) corn fired boiler system including one (1) untreated corn fired boiler identified as Boiler # 1, with a maximum heat input capacity of 27.5 MMBtu/hr, and one (1) natural gas ignition burner with a maximum heat input capacity of 1.075 MMBtu/hr for cold boiler starts with emissions controlled by a cyclone, and exhausting to Boiler Stack #1. This facility is approved to be constructed in 2007.
- (b) One (1) corn handling and storage operation, approved to be constructed in 2007 and consisting of the following:
 - (1) One (1) truck unloading operation with a maximum throughput of 224,000 pounds of corn per hour.
 - (2) One (1) corn storage silo, with a maximum storage capacity of 762,552 pounds of corn (volumetric capacity 15,987 cubic feet), with emissions controlled by a baghouse and exhausting through one (1) stack.
 - (3) One (1) corn handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: five (5) augers, one (1) conveyor, one (1) bucket elevator, one (1) pneumatic fuel transfer system, and one (1) metering bin.

- (c) One (1) ash disposal system, with a maximum throughput of 500 pounds of ash per hour, with emissions controlled by a cyclone including: three (3) augers. This facility is approved to be constructed in 2007.

Insignificant Activities

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

- (a) Closed loop heating and cooling systems.
- (b) Heat exchanger cleaning and repair.
- (c) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (d) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (e) Emergency generators as follows:
 - (1) One (1) diesel fired emergency generator with maximum output rating of 465 horsepower. [326 IAC 2-8]
 - (2) One (1) diesel fired emergency generator with maximum output rating of 1600 horsepower. [326 IAC 2-8]

Enforcement Issues

There are no pending enforcement actions.

Stack Summary

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (°F) |
|-------------------------|------------------------|---------------|-----------------|------------------|------------------|
| Boiler #2, #3, #4 Stack | Boilers #2, #3, and #4 | 48.0 | 3.0 | 14,240 | 350 |
| Boiler # 1 Stack | Boiler #1 | 74.81 | 2.5 | 14,240 | 525 |

Emission Calculations

See Appendix A of this document for detailed emission calculations.

Permit Level Determination – FESOP

Pursuant to 326 IAC 2-7-1(29), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

This table reflects the unrestricted potential emissions of the source.

| Pollutant | tons/year |
|-----------------|-----------|
| PM | 216.35 |
| PM-10 | 108.91 |
| SO ₂ | 55.56 |
| VOC | 6.08 |
| CO | 117.51 |
| NO _x | 156.09 |

| HAPs | tons/year |
|-------------------|-----------|
| Hydrogen Chloride | 2.29 |
| Formaldehyde | 0.53 |
| Benzene | 0.50 |
| Acrolein | 0.48 |
| Styrene | 0.22 |
| Others | 0.98 |
| Total | 5.00 |

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, CO and NOx is equal to or greater than 100 tons per year. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit their PM10, CO and NOx emissions to less than Title V levels, therefore the source will be issued a FESOP.
- (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 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.

Fugitive Emissions

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

Potential to Emit After Issuance – FESOP

The source has opted to be 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 (tons/year) | | | | | | |
|---|-------------------------------|--------------|-----------------|-------------|--------------|-----------------|---------------------------------------|
| | PM | PM-10 | SO ₂ | VOC | CO | NO _x | HAPs |
| Corn Fired Combustion (Boiler #1) | 7.23 | 28.19 | 54.20 | 2.05 | 97.0 | 90.34 | 2.29 (single) 4.04 (total) |
| Natural Gas Combustion (Boilers #2, #3, and #4) | 0.95 | 3.78 | 0.30 | 2.74 | | | 0.89 (single) 0.94 (total) |
| Corn and Ash Handling | 96.20 | 33.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Two (2) Emergency Generators | 0.64 | 0.64 | 0.60 | 0.73 | 1.94 | 9.00 | 0.005 (single) 0.01 (total) |
| Total Emissions | 105.02 | 66.05 | 55.10 | 5.52 | 98.94 | 99.34 | 2.29 (single) 4.99 (total) |

This source is a minor source pursuant to the Part 70 Permit program. A FESOP will be issued. See State Rule Applicability Determination Section below for 326 IAC 2-8 limits.

Federal Rule Applicability Determination

The following federal rules are applicable to the source:

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to existing emission units that involve a pollutant-specific emission unit and meet the following criteria:
 - (1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant; and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

As a FESOP source, this source has accepted federally enforceable limits such that the requirements of 326 IAC 2-7 (Part 70) do not apply. Therefore, the requirements of 40 CFR 64, Compliance Assurance Monitoring, are not applicable to this source.

- (b) The requirements of the New Source Performance Standard for Grain Elevators, 40 CFR 60.300, Subpart DD (326 IAC 12) are not included in this permit because the source has a permanent storage capacity less than 2.5 million U.S. bushels. The maximum storage capacity of the source is 0.013 million U.S. bushels.
- (c) The requirements of the New Source Performance Standard for Fossil-Fuel-Fired Steam Generators for which construction is commenced after August 17, 1971, 326 IAC 12, (40 CFR 60.40, Subpart D) are not included in the permit for the three (3) boilers, identified as Boiler #2, #3 and #4, because each boiler was constructed before the rule applicability date of August 17, 1971.
- (d) The requirements of the New Source Performance Standard for Electric Utility Steam Generating Units for which Construction is commenced after September 18, 1978, 326 IAC 12, (40 CFR 60.40da, Subpart Da) are not included in the permit for the three (3) boilers, identified as Boiler #2, #3 and #4, because each boiler was constructed before the rule applicability date of September 18, 1978.
- (e) The requirements of the New Source Performance Standard Industrial-Commercial-Institutional Steam Generating Units, 326 IAC 12, (40 CFR 60.40b, Subpart Db) are not included in the permit for the three (3) boilers, identified as Boiler #2, #3, and #4, because each boiler was constructed before the rule applicability date of June 19, 1984.
- (f) The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc (326 IAC 12) are included for the corn-fired boiler (Boiler # 1), because the operation commenced after June 9, 1989 and the maximum design heat input capacity is greater than ten (10) MMBtu/hr but less than one hundred (100) MMBtu/hr.

The corn-fired boiler is subject to the following portions of 40 CFR 60, Subpart Dc. Nonapplicable portions of the NSPS are not included in the permit:

- (1) 40 CFR 60.40c (a), (b), (c) and (d);
- (2) 40 CFR 60.41c;
- (3) 40 CFR 60.48c(a), (g), and (i)

The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR 60, Subpart Dc.

The natural gas-fired boilers, referred to as Boiler #2, #3, and #4, are not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc), because they were constructed prior to June 9, 1989.

- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD are not included in this permit for natural gas-fired boilers or the corn-fired boiler. This source is a minor source of hazardous air pollutants (HAPs).
- (h) The requirements of 40 CFR Part 63, Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (326 IAC 20-82) are not included in this permit. This rule applies to reciprocating internal combustion engines (RICE) located at a major source of HAP emissions. This source is not a major source of HAP emissions.
- (i) The requirements of 40 CFR Part 60, Subpart IIII-New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (NSPS) (326 IAC 12) are not included in the permit since both of the emergency generators were constructed before July 11, 2006.
- (j) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit for this source.
- (k) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this permit for this source.

State Rule Applicability Determination

Entire Source

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

The existing source was constructed prior to the August 7, 1977 rule applicability date. This source is not considered a major source because it is not one of the 28 listed source categories and it has the potential to emit of less than 250 tons per year of all criteria pollutants. As a FESOP source, the total source wide PM10, CO, and NOx emissions shall be limited to less than 100 tons per year, each (see 326 IAC 2-8-4 (FESOP) below for details of emission limits). Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration, PSD) shall not apply.

326 IAC 2-3 (Emissions Offset)

This source is located in LaPorte County. LaPorte County was designated by EPA as a nonattainment area for the 8-hour ozone standard in June 2004. The potential to emit of VOC from the emission units at this source is less than 100 tons per year. The potential to emit of NOx is greater than 100 tons per year. As a FESOP source, the total source wide NOx emissions shall be limited to less than 100 tons per year (see 326 IAC 2-8-4 (FESOP) below for details of emission limits). Therefore, the requirements of 326 IAC 2-3 (Emission Offset) shall not apply.

326 IAC 2-8-4 (FESOP)

Pursuant to this rule, the amount of PM10, CO and NOx emitted from the source shall be limited to less than one hundred (100) tons per year. In order to comply with these limits the following conditions apply:

(a) Boilers #1, #2, #3 and #4 shall be subject to the following CO, NOx and PM10 emission limits:

- (1) The CO emissions from Boilers #2, #3, and #4 shall not exceed 84.0 lb/MMSCF.
- (2) The NOx emissions from Boilers #2, #3, and #4 shall not exceed 100.0 lb/MMSCF.
- (3) The CO emissions from Boiler #1 shall not exceed 0.60 lb/MMBtu.
- (4) The NOx emissions from Boiler #1 shall not exceed 0.75 lb/MMBtu.
- (5) The PM10 emissions from Boiler #1 shall not exceed 0.36 lb/MMBtu.
- (6) The usage of shelled untreated corn and fuel equivalent in the boilers identified as Boiler #1, #2, #3, and #4 shall be limited to 17,713.15 tons of corn per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, NOx and CO emissions are limited below 90.34 and 97.0 tons per year, respectively. For purposes of determining compliance, the following shall apply:

every MMScf of natural gas burned shall be equivalent to 9.8 tons of shelled untreated corn based on the NOx emission factor, such that the total NOx and CO emissions do not exceed the limit specified.

(b) The total diesel input to the two (2) diesel generators shall be limited to less than 31,265.5 gallons per twelve (12) consecutive month period with compliance determined at the end of each month. This fuel usage limit will limit the NOx emissions to less than 9.0 tons per year.

Compliance with the above conditions combined with the potential emissions of PM10, CO, and NOx from all other emissions units at this source, shall limit the source-wide PM10, CO and NOx emissions to less than 100 tons per twelve (12) consecutive month period, and render the requirements of 326 IAC 2-7 (Part 70) and 326 IAC 2-3 (Emissions Offset) not applicable.

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

The source will emit less than 10 tons per year of a single HAP and less than 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in LaPorte County, is not required to operate under a Part 70 Permit, and does not have the potential to emit greater than or equal to five (5) tons per year of lead. Therefore this source is subject only to the additional information requests under 326 IAC 2-6-5.

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 the 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.

Corn Handling, Corn Storage, and Ash Handling

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the following facilities shall not exceed the limits as stated when operating at the respective process weight rates:

The limits were calculated using either of the following equations:

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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

or

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

The following table sets forth the maximum process weight rate for specific emission units and the allowable rate of emissions calculated for that process weight rate. The corn processed is estimated to weigh 56 pounds per bushel.

| Emission Unit | Process Weight Rate (tons/hr) | Potential PM Emissions (lb/hr) | Allowable PM Emissions (326 IAC 6-3-2) (lb/hr) |
|---------------------------|-------------------------------|--------------------------------|--|
| Truck Unloading Operation | 112 | 20.15 | 52.4 |
| Corn Handling System | 126 | 7.69 | 53.6 |
| Ash Handling System | 0.25 | 0.54 | 1.62 |

Emission calculations based on AP-42 emission factors indicate that each emission unit will be able to comply with this limit without using a control device.

Boilers

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

The three (3) natural gas fired boilers identified as Boilers #2, #3, and #4 (all constructed before 1983), each rated at 37.5 MMBtu/hr are subject to the particulate matter limitations of 326 IAC 6-2-3. Pursuant to 326 IAC 6-2-3(d), particulate emissions from Boilers #2, #3, and #4, shall not exceed 0.8 lbs/MMBtu.

The potential worst case emissions from each of these boilers is 0.0019 lb/MMBtu of particulate matter and are less than the allowable 0.8 lb/MMBtu. Therefore, the Boilers #2, #3, and #4 will be able to comply with this rule.

The one (1) corn fired boiler identified as Boiler #1 (constructed after 1983), rated at 27.5 MMBtu/hr is subject to the particulate matter limitations of 326 IAC 6-2-4. Pursuant to this rule, the particulate emissions from the indirect heating facilities constructed after September 21, 1983, shall be limited by the following equation:

$$Pt = 1.09/Q^{0.26}$$

where: Pt = maximum allowable particulate matter (PM) emitted per mmBtu heat input
Q = total source max. operation capacity rating (37.5 x 3 + 27.5 = 140 MMBtu/hr)

Based on the above equation, the corn fired boiler (Boiler #1) shall be limited to 0.3 lb/MMBtu.

Compliance calculation:

Potential PM emissions from Boiler #1 after control = (48.18 tons PM/yr) * (hr/27.5 MMBtu) * (yr/8,760 hrs) * (2,000 lbs/ton) * (1-85%) = 0.06 lbs PM/MMBtu

Controlled potential PM emissions for Boiler #1 (0.06 lbs PM/mmBtu) are less than allowable 0.3 lbs PM/mmBtu, therefore, the Boiler #1 will be able to comply with this rule. The cyclone for particulate control shall be in operation and control emissions from Boiler #1 at all times that the corn-fired boiler is in operation.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

This rule is applicable to emission units with a potential to emit twenty five (25) tons per year or ten (10) pounds per hour of sulfur dioxide. Pursuant to 326 IAC 7-1.1 (applicability), the one (1) corn fired boiler (Boiler #1) is subject to the rule because the potential emissions are greater than twenty five (25) tons per year, however, since the boiler only burns corn and none of the fuels listed in 326 IAC 7-1.1-2, the requirements of this rule do not apply.

The potential to emit SO₂ from Boiler #2, #3, and #4 combusting natural gas only, will be less than 25 tons per year and less than 10 pounds per hour, therefore the requirements of 326 IAC 7-1.1 are not applicable.

326 IAC 8-1-6 (Best Available Control Technology (BACT))

The Boilers #1, #2, #3, and #4 are not subject to this rule because potential to emit VOC is less than 25 tons per year.

| |
|---|
| 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.

This permit includes CO and NO_x emissions limits for the corn-fired boiler to render the requirements of 326 IAC 2-7 (Title V) and 326 IAC 2-3 (Emission Offset) not applicable. There are currently no EPA approved Emission Factors for corn fired boilers. IDEM has assumed that factors developed for wood residue combustion in boilers represent a reasonable estimate of emissions. To demonstrate compliance these limits, the Permittee shall, no later than 180 days after initial startup of the corn-fired boiler, perform testing for NO_x, SO₂, PM, PM₁₀, CO, VOC and HCl. All testing shall be conducted in accordance with Section C - Performance Testing, using methods approved by the Commissioner.

| Emission Unit | Control Device | Timeframe for Testing | Pollutant | Frequency of Testing |
|------------------------|-----------------------|------------------------------|---|-----------------------------|
| Corn fired Boiler (#1) | Cyclone | 180 after initial startup | PM, PM10, NOx, SO ₂ , CO, VOC, and HCl | Once every 5 years |

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

1. The corn-fired boiler has applicable compliance monitoring conditions as specified below:
 - (a) When combusting corn, daily visible emissions notations of the corn-fired boiler shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. 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 start up or shut down time. 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. 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. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
 - (b) In the event that cyclone failure has been observed: Failed units and the associated process will be shut down immediately until the failed units have 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). Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

These monitoring conditions are necessary to ensure compliance with 326 IAC 2-8 (FESOP), 326 IAC 6-2 (Particulate Limitations for Sources of Indirect Heating), and 326 IAC 5-1 (Opacity Limitations).

There are no compliance monitoring requirements for the corn handling, corn storage, and ash handling operations since each operation with comply with the emission limits without the use of a control device.

Conclusion and Recommendation

The construction and operation of this correctional facility shall be subject to the conditions of the attached proposed FESOP Permit No. F091-24741-00032. The staff recommend to the Commissioner that this FESOP Permit be approved.

Appendix A: Emission Calculations

Company Name: Indiana State Prison
Address: 42 Park Row, Michigan City, Indiana 46361
Permit No.: 091-24741
Plt ID: 091-00032
Reviewer: Adeel Yousuf / EVP
Date: 07/11/07

| Total Potential To Emit (tons/year) | | | | | |
|---|--|------------------------|-----------------------|-------------------------|--------------|
| Emissions Generating Activity | | | | | |
| Pollutant | Boilers 2, 3 and 4 Natural Gas Combustion | Boiler 1 Corn Fired | Corn and Ash Handling | Emergency Generators | TOTAL |
| PM | 0.95 | 48.18 | 166.09 | 1.14 | 216.35 |
| PM10 | 3.78 | 43.36 | 60.63 | 1.14 | 108.91 |
| SO2 | 0.30 | 54.20 | 0.00 | 1.06 | 55.56 |
| NOx | 49.75 | 90.34 | 0.00 | 16.00 | 156.09 |
| VOC | 2.74 | 2.05 | 0.00 | 1.30 | 6.08 |
| CO | 41.79 | 72.27 | 0.00 | 3.45 | 117.51 |
| total HAPs | 0.94 | 4.04 | 0.00 | 0.02 | 5.00 |
| worst case single HAP | 0.89 (Hexane) | 2.29 (HCl) | 0.00 | 0.0093 (Propylene) | 2.29 (HCl) |
| Total emissions based on rated capacities at 8,760 hours/year. | | | | | |
| *Insignificant Activities emissions consist of fugitive VOC emissions from equipment leaks, degreasing operation, and natural combustion units. | | | | | |
| Limited Potential To Emit (tons/year) | | | | | |
| Emissions Generating Activity | | | | | |
| Pollutant | Boilers 2, 3 and 4 Natural Gas Combustion | Boiler 1 Corn Fired | Corn and Ash Handling | Emergency Generators | TOTAL |
| PM | 0.95 | 7.23 | 96.20 | 0.64 | 105.02 |
| PM10 | 3.78 | 28.19 | 33.44 | 0.64 | 66.05 |
| SO2 | 0.30 | 54.20 | 0.00 | 0.60 | 55.10 |
| NOx | 90.34 | | 0.00 | 9.00 | 99.34 |
| VOC | 2.74 | 2.05 | 0.00 | 0.73 | 5.52 |
| CO | 97.00 | | 0.00 | 1.94 | 98.94 |
| total HAPs | 0.94 | 4.04 | 0.00 | 0.01 | 4.99 |
| worst case single HAP | 0.89 (Hexane) | 2.29 (HCl) | 0.00 | 0.0052 (Propylene) | 2.29 (HCl) |
| Total emissions based on rated capacities at 8,760 hours/year. | | | | | |

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

Company Name: Indiana State Prison
Address City IN Zip: 42 Park Row, Michigan City, Indiana 46361
Permit No.: 091-24741
Plt ID: 091-00032
Reviewer: Adeel Yousuf / EVP
Date: 05/22/07

| | | |
|--|----------|---------------------------------|
| | MMBtu/hr | Potential Throughput MMCF/yr |
| Heat Input Capacity | | |
| Three (3) boilers, identified as #2, 3, and 4, each rated at 37.5 MMBtu/hr | 113.6 | 994.9 |
| One (1) ignition burner for Boiler # 1 rated at 1.075 MMBtu/hr | | |

| Emission Factor in lb/MMCF | Pollutant | | | | | |
|-------------------------------|-----------|-------|------|----------------------|------|-------|
| | PM* | PM10* | SO2 | NOx | VOC | CO |
| | 1.9 | 7.6 | 0.6 | 100.0 **see below | 5.5 | 84.0 |
| Potential Emission in tons/yr | 0.95 | 3.78 | 0.30 | 49.75 | 2.74 | 41.79 |

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

Methodology

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

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

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

Company Name: Indiana State Prison
Address City IN Zip: 42 Park Row, Michigan City, Indiana 46361
Permit No.: 091-24741
Plt ID: 091-00032
Reviewer: Adeel Yousuf / EVP
Date: 05/22/07

HAPs - Organics

| | | | | | |
|-------------------------------|--------------------|----------------------------|-------------------------|-------------------|--------------------|
| Emission Factor in lb/MMcf | Benzene 2.1E-03 | Dichlorobenzene 1.2E-03 | Formaldehyde 7.5E-02 | Hexane 1.8E+00 | Toluene 3.4E-03 |
| Potential Emission in tons/yr | 1.045E-03 | 5.970E-04 | 3.731E-02 | 8.954E-01 | 1.691E-03 |

HAPs - Metals

| | | | | | |
|-------------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMcf | Lead 5.0E-04 | Cadmium 1.1E-03 | Chromium 1.4E-03 | Manganese 3.8E-04 | Nickel 2.1E-03 |
| Potential Emission in tons/yr | 2.487E-04 | 5.472E-04 | 6.964E-04 | 1.890E-04 | 1.045E-03 |

Methodology is the same as previous page.

Total HAPs: 9.388E-01 ton/yr

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Biomass Boiler Emissions - Combusting Shelled Corn
MM BTU/HR <100

Company Name: Indiana State Prison
Address City IN Zip: 42 Park Row, Michigan City, Indiana 46361
Permit No.: 091-24741
Plt ID: 091-00032
Reviewer: Adeel Yousuf / EVP
Date: 05/22/07

| | | | |
|---|----------|-------------------------------|----------------------------|
| Heat Input Capacity | MMBtu/hr | Throughput of Corn (lb/hr) | Cyclone Control Efficiency |
| | | | 85% PM 35% PM10 |
| One (1) corn fired boiler, with a maximum heat input capacity of 27.5 MMBtu/hr, equipped with a mechanical collector for particulate matter control | 27.5 | 4044.1 | |

| | Pollutant | | | | | |
|---------------------------------|-------------|---------------|-------------|----------------------------|--------------|------------|
| Emission Factor in lb/MMBtu | PM* 0.40 | PM10* 0.36 | SO2 0.45 | NOx 0.75 **see below | VOC 0.017 | CO 0.60 |
| Potential Emission in tons/yr | 48.18 | 43.36 | 54.20 | 90.34 | 2.05 | 72.27 |
| Controlled Emissions in tons/yr | 7.23 | 28.19 | | | | |

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

Methodology

All emission factors are based on normal firing.
Emissions Factors are from AP-42, Chapter 1.6 (Wood-fired boilers)
Emission (ton/yr) = Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) x 8760 hrs/yr x 1 ton/2000 lbs
Energy content of shelled corn = 6800 Btu/lb
One bushel of corn at 15.5% moisture = 56 pounds
See next page for HAP Emission Calculations

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

Company Name: Indiana State Prison
Address City IN Zip: 42 Park Row, Michigan City, Indiana 46361
Permit No.: 091-24741
Plt ID: 091-00032
Reviewer: Adeel Yousuf / EVP
Date: 05/22/07

HAPs - Organics

| | Acrolein | Benzene | Formaldehyde | Hydrogen Chloride | Styrene | Lead |
|-------------------------------|-----------|-----------|--------------|-------------------|-----------|-----------|
| Emission Factor in lb/MMBtu | 4.0E-03 | 4.2E-03 | 4.4E-03 | 1.9E-02 | 1.9E-03 | 4.8E-05 |
| Potential Emission in tons/yr | 4.818E-01 | 5.059E-01 | 5.300E-01 | 2.289E+00 | 2.289E-01 | 5.782E-03 |

Emissions Factors are from AP-42, Chapter 1.6 (Wood-fired boilers)
Methodology is same as previous page.

| | |
|--------------------|-------------|
| Total HAPs: | 4.04 |
|--------------------|-------------|

The six highest HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.6-3.

**Appendix A: Emission Calculations
Emergency Diesel Generators**

Company Name: Indiana State Prison
Address City IN Zip: 42 Park Row, Michigan City, Indiana 46361
Permit No.: 091-24741
Plt ID: 091-00032
Reviewer: Adeel Yousuf / EVP
Date: 05/22/07

Emissions calculated based on output rating (hp)

| | Heat Input Capacity Horsepower (hp) | Total Potential Throughput hp-hr/yr | Limited Throughput gallons/yr | Limited Throughput hp-hr/yr |
|--|--|---|-------------------------------------|-----------------------------------|
| One (1) diesel fired emergency generator | 465.0 | 1,032,500.00 | 31265.5 | 580645.00 |
| One (1) diesel fired emergency generator | 1600.0 | | | |

| Emission Factor in lb/hp-hr | Pollutant | | | | | |
|-------------------------------|-----------|--------|--------|--------|--------|--------|
| | PM* | PM10* | SO2 | NOx | VOC | CO |
| | 0.0022 | 0.0022 | 0.0021 | 0.0310 | 0.0025 | 0.0067 |
| Potential Emission in tons/yr | 1.14 | 1.14 | 1.06 | 16.00 | 1.30 | 3.45 |
| Limited Emission in tons/yr | 0.64 | 0.64 | 0.60 | 9.00 | 0.73 | 1.94 |

Methodology

Potential Throughput (hp-hr/yr) = hp * 500 hr/yr

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Limited Throughput (hp-hr/yr) = Gallons diesel/yr * Heating Value of Diesel (130,000 Btu/gal) * hp-hr/7000 Btu

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

Company Name: Indiana State Prison
Address City IN Zip: 42 Park Row, Michigan City, Indiana 46361
Permit No.: 091-24741
Plt ID: 091-00032
Reviewer: Adeel Yousuf / EVP
Date: 05/22/07

| HAPs | AP-42 Factor lb/MMBtu | Potential Emissions tons/yr | Limited Potential tons/yr |
|---------------|----------------------------------|--|--------------------------------------|
| Benzene | 9.33E-04 | 3.37E-03 | 1.90E-03 |
| Toluene | 4.09E-04 | 1.48E-03 | 8.31E-04 |
| Xylenes | 2.85E-04 | 1.03E-03 | 5.79E-04 |
| Propylene | 2.58E-03 | 9.32E-03 | 5.24E-03 |
| 1,3-Butadiene | 3.91E-05 | 1.41E-04 | 7.95E-05 |
| Formaldehyde | 1.18E-03 | 4.26E-03 | 2.40E-03 |
| Acetaldehyde | 7.67E-04 | 2.77E-03 | 1.56E-03 |
| Acrolein | 9.25E-05 | 3.34E-04 | 1.88E-04 |
| Naphthalene | 8.48E-05 | 3.06E-04 | 1.72E-04 |
| Total: | | 2.30E-02 | 1.29E-02 |

Methodology is the same as previous page.

Emission Factors are from AP42 (Fifth edition, January 1995, Suppl. B), Table 3.3-2. Conversion factor of 7,000 Btu/hr-hr used to convert from lb/MMBtu to lb/hp-hr.

Company Name: Indiana State Prison
 Address City IN Zip: 42 Park Row, Michigan City, Indiana 46361
 Permit No.: 091-24741
 Pit ID: 091-00032
 Reviewer: Adeel Yousuf / EVP
 Date: 05/22/07

Emissions from Corn Handling Operations

| | | | | |
|----------------------|---------------------------|---|--|-------------------------|
| | Corn Unloading/ Receiving | Corn Headhouse and Internal Handling (legs, belts, distributor, etc.) | Ash Internal Handling (augur, container) | Corn Storage Bin (vent) |
| Throughput (tons/hr) | 112 | 126 | 0.25 | 381 |

| UNLOADING/RECEIVING | | | | | | | |
|---------------------|-------|--------------|--------|---------|--------|------------|-------|
| Straight Truck | | Hopper Truck | | Railcar | | Barge/Ship | |
| PM | PM-10 | PM | PM-10 | PM | PM-10 | PM | PM |
| 0.18 | 0.059 | 0.035 | 0.0078 | 0.032 | 0.0078 | 0.15 | 0.038 |
| UNLOADING/RECEIVING | | | | | | | |
| | PM = | 0.18 | | | PM10 = | | 0.059 |

Factor representing this source* =

| | UNLOADING/RECEIVING | | HEADHOUSE AND INTERNAL HANDLING (legs, belts, distributor, etc.) | | STORAGE BIN (VENT)*** | | Ash Handling *** | |
|---|---------------------|-------|--|-------|---------------------------|--------|--------------------------|-------|
| | PM | PM-10 | PM | PM-10 | PM | PM-10 | PM | PM-10 |
| Emission Factor in lb/ton | 0.18 | 0.059 | 0.061 | 0.034 | 0.025 | 0.0063 | 2.2 | 2.2 |
| Potential Emissions in tons/yr | 88.3 | 28.9 | 33.7 | 18.8 | 41.7 | 10.5 | 2.4 | 2.4 |
| Controls (overall % efficiency) | 0.00% | 0.00% | Baghouse 90.00% 90.00% | | Baghouse 90.00% 90.00% | | Cyclone 85.00% 35.00% | |
| Controlled Potential Emissions in tons/yr | 88.3 | 28.9 | 3.4 | 1.9 | 4.2 | 1.1 | 0.4 | 1.6 |

** The PM-10 emission factors given are estimated by taking 25% of the filterable PM emission factor in accordance with AP-42 Section 9.9.1, Table 9.9.1-1, Footnote j.
 *** The PM emission factor given is from the interim AP-42 Section 9.9.1 (11/95). The PM-10 emission factor given is assumed to be equivalent to the filterable PM emission factor since no data was given.

Methodology

Emission factors are from AP 42 Table 9.9.1-1 Particulate Emission Factors for Grain Elevators (Supplement D, 5/98) (exceptions are noted)
 Potential Emissions in ton/yr = Throughput (ton/hr) * Emission factor (lb/ton) * 8760 (hours/day) / 2000 (lbs/ton)
 Controlled Potential Emissions in ton/yr = Potential Emissions (tons/yr) * (1-Control Efficiency)

| | PM | PM10 |
|--|-------|------|
| Total Uncontrolled Emissions (tons/yr) | 166.1 | 60.6 |
| Total Controlled Emissions (tons/yr) | 96.2 | 33.4 |

Emission factors are from AP 42 Table 9.9.1-1 Particulate Emission Factors for Grain Elevators (3/03)
 Emission factors for ash handling are from AP-42, Chapter 11.17 Lime Manufacturing, Table 11.17-4 (SCC3-05-016-15)
 Potential Emissions (ton/yr) = Throughput (ton/hr) * Emission factor (lb/ton) * 8760 (hours/year) / 2000 (lbs/ton)
 Controlled Potential Emissions (ton/yr) = Throughput (ton/hr) * Emission factor (lb/ton) * 8760 (hours/year) / 2000 (lbs/ton) * (1-Control Efficiency)

**Appendix A: Emission Calculations
Equivalent Calculation**

Company Name: Indiana State Prison
Address: 42 Park Row, Michigan City, Indiana 46361
Permit No.: 091-24741
Plt ID: 091-00032
Reviewer: Adeel Yousuf / EVP
Date: 07/11/07

Equivalents

| | NOx Emission Factor | | one MMSCF of natural gas is equal to | Units of Measure | | Units of Measure |
|----------------------------|---------------------------|----------|--|---------------------|-----|---------------------|
| Boilers B2-B4, Natural Gas | 100 | lb/MMSCF | - | - | - | - |
| Boiler B4, Corn | 0.75 | lb/MMBtu | 133 | MMBtu of Corn | 9.8 | tons of Corn |

1 ton of Corn burned is equal to: **0.1020** MMScf of natural gas based on NOx emission factor

| | Energy Content |
|-------------|-----------------|
| Natural Gas | 1,020 Btu/cu ft |
| Corn | 6,800 Btu/lb |

Emission factors are from AP-42, Chapter 1.4 - Natural Gas Combustion; 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 (July 1998).