



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: July 22, 2008

RE: Indiana State Prison / 091-26420-00032

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

Notice of Decision: Approval - Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER.dot12/03/07



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Larry Shadley
Indiana State Prison - Michigan City
P.O. Box 41
Michigan City, IN 46360

July 22, 2008

Re: 091-26420-00032
First Significant Revision to
F091-24741-00032

Dear Larry Shadley:

Indiana State Prison - Michigan City was issued a Federally Enforceable State Operating Permit (FESOP) No. F091-24741-00032 on November 30, 2007 for a stationary correctional facility located at 42 Park Road, Michigan City, Indiana 46360. On April 14, 2008, the Office of Air Quality (OAQ) received an application from the source requesting to modify an existing corn-fired boiler to also burn biomass, including untreated corn, wood (including bark), wood pellets and switchgrass. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Anne-Marie C. Hart, of my staff, at 317-234-5401 or 1-800-451-6027, and ask for extension 4-5401.

Original signed by,

Alfred C. Dumauval, Ph. D., Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

ACD/ACH

cc: File - LaPorte County
LaPorte County Health Department
U.S. EPA, Region V
Air Compliance Section
IDEM Northwest Regional Office
Compliance Data Section
Technical Support and Modeling
Permits Administrative and Development
Billing, Licensing and Training Section



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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 46360**

(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

First Significant Permit Revision No.: 091-26420-00032

Original signed by:

Alfred C. Dumauval, Ph.D, Section Chief
Permits Branch
Office of Air Quality

Issuance Date: July 22, 2008

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 46360
Mailing Address:	P.O. Box 41, Michigan City, Indiana 46360
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) biomass-fired boiler system including one (1) boiler identified as Boiler # 1, capable of combusting untreated corn, wood (including bark), wood pellets and switchgrass 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 was permitted in 2007 and modified in 2008.
- (c) One (1) biomass handling and storage operation, approved to be constructed in 2007 and modified in 2008, consisting of the following:
 - (1) One (1) truck unloading operation with a maximum throughput of 224,000 pounds of biomass per hour.
 - (2) One (1) biomass storage silo, with a maximum storage capacity of 762,552 pounds of biomass (volumetric capacity 15,987 cubic feet), with emissions controlled by a baghouse and exhausting through one (1) stack.
 - (3) One (1) biomass handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: six (6) 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 Emission Statement [326 IAC 2-6]

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

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

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

C.18 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.19 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.20 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) biomass-fired boiler system including one (1) boiler identified as Boiler # 1, capable of combusting untreated corn, wood (including bark), wood pellets and switchgrass 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 was permitted in 2007 and modified in 2008.

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 biomass-fired boiler (Boiler #1) shall be limited to 0.30 lbs PM/MMBtu.

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 (untreated corn, wood (including bark), wood pellets, switchgrass 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 equation in Condition D.1.6,
- (b) The total amount of fuel (untreated corn, wood (including bark), wood pellets, switchgrass 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.
- (d) When burning corn in Boiler #1, the Permittee shall only burn untreated corn.

Compliance with the above limits, combined with the potential to emit NOx and CO from other emission units at the source, shall limit the NOx and CO from the entire source to less than 100 tons per twelve (12) consecutive month period under 326 IAC 2-7 and 326 IAC 2-2 not applicable.

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 biomass-fired boiler (Boiler #1) at all times that the biomass-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:

$$E_{NOx} = \frac{(CE_{Corn} * Q_{Corn}) + (CE_{SG} * Q_{SG}) + (2.9 * Q_{Bark}) + (7.92 * Q_{Wood}) + (100 * Q_{NG})}{2000 \text{ lbs/ton}}$$

Where:

- E_{NOx} = Emissions of NOx in tons per month
- CE_{Corn} = 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 emission factor shall be the lb/ton value as established by the stack test
- Q_{Corn} = Corn consumption in tons per month
- CE_{SG} = Compliance emission factor for NOx shall be 10.2 pounds NOx per ton switchgrass until an IDEM approved stack test is conducted. After a stack test is conducted, the emission factor shall be the lb/ton value as established by the stack test
- Q_{SG} = Switchgrass consumption in tons per month
- Q_{Bark} = Wood (including bark) consumption in tons per month
- Q_{Wood} = Wood pellets 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:

$$E_{CO} = \frac{(CE_{Corn} * Q_{Corn}) + (CE_{SG} * Q_{SG}) + (7.74 * Q_{Bark}) + (9.48 * Q_{Wood}) + (84 * Q_{NG})}{2000 \text{ lbs/ton}}$$

Where:

E_{CO}	=	Emissions of CO in tons per month
CE_{Corn}	=	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 emission factor shall be the lb/ton value as established by the stack test
Q_{Corn}	=	Corn consumption in tons per month.
CE_{SG}	=	Compliance emission factor for NOx shall be 10.2 pounds NOx per ton switchgrass until an IDEM approved stack test is conducted. After a stack test is conducted, the emission factor shall be the lb/ton value as established by the stack test
Q_{SG}	=	Switchgrass consumption in tons per month
Q_{Bark}	=	Wood (including bark) consumption in tons per month
Q_{Wood}	=	Wood pellets consumption in tons per month
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]

- (a) 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 usage of untreated corn as a fuel in Boiler #1 the Permittee shall perform PM, PM₁₀, SO₂, NO_x, CO, VOC, and HCl testing for Boiler #1 when burning untreated corn utilizing methods as approved by the Commissioner. PM-10 includes filterable and condensable PM-10. If the Commissioner determines that valid stack test results from a similar boiler operated by the Indiana Department of Corrections is not representative of emissions from Boiler #1, stack 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.
- (b) 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 eighty (180) days after initial usage of switchgrass as a fuel in Boiler #1, the Permittee shall perform PM, PM₁₀, SO₂, NO_x, CO and VOC testing for Boiler #1 when burning switchgrass utilizing methods as approved by the Commissioner. PM₁₀ includes filterable and condensable PM₁₀. If the Commissioner determines that valid stack test results from a similar boiler operated by the Indiana Department of Corrections is not representative of emissions from Boiler #1, stack 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 biomass, 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 each type of fuel (untreated corn, wood (including bark), wood pellets, switchgrass 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 NOx 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 biomass 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 biomass 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 biomass-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 biomass-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) biomass handling and storage operation, approved to be constructed in 2007 and modified in 2008, consisting of the following:
 - (1) One (1) truck unloading operation with a maximum throughput of 224,000 pounds of biomass per hour.
 - (2) One (1) biomass storage silo, with a maximum storage capacity of 762,552 pounds of biomass (volumetric capacity 15,987 cubic feet), with emissions controlled by a baghouse and exhausting through one (1) stack.
 - (3) One (1) biomass handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: six (6) 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
Biomass Handling System	126	53.6
Ash Handling System	0.25	1.62

D.2.2 PM₁₀ Limitations [326 IAC 2-8-4]

The PM₁₀ emissions from the baghouse controlling the emissions from biomass silo and handling system shall not exceed 5.44 pounds per hour. Compliance with this limit, combined with the PM₁₀ emissions from the other emission units at this source shall limit the source-wide potential to emit PM₁₀ to less than 100 tons per twelve (12) consecutive month period, and render 326 IAC 2-7 (Part 70 Program) not applicable.

D.2.3 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 any control devices.

Compliance Determination Requirements

D.2.4 Particulate Control

- (a) In order to comply with Condition D.2.2, the biomass silo and handling system shall be controlled by a baghouse when these units are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

D.2.5 Visible Emissions Notations

- (a) Visible emission notations of the baghouse stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eight percent (80%) of the time the process is in operation, not counting startup or shutdown 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.

D.2.6 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the biomass silo and handling system at least once per day when these units are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 to 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take

response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

D.2.7 Broken or Failed Bag Detection

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

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

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

D.2.8 Record Keeping Requirements

- (a) To document compliance with D.2.5, the Permittee shall maintain records of daily visible emission notations of the baghouse stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (b) To document compliance with D.2.6, the Permittee shall maintain daily records of pressure drop for baghouses during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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 46360
Mailing Address: P.O. Box 41, Michigan City, Indiana 46360
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 46360
Mailing Address: P.O. Box 41, Michigan City, Indiana 46360
FESOP Permit No.: F091-24741-00032

This form consists of 2 pages

Page 1 of 2

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

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

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

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

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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 46360
Mailing Address: P.O. Box 41, Michigan City, Indiana 46360
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 46360
 Mailing Address: P.O. Box 41, Michigan City, Indiana 46360
 FESOP Permit No.: F091-24741-00032
 Facility: Boilers #1, #2, #3, and #4
 Parameter: Biomass or equivalent fuel usage
 Limit: (a) The total amount of fuel (untreated corn, wood (including bark), wood pellets, switchgrass 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 (untreated corn, wood (including bark), wood pellets, switchgrass, 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.

$$E_{NOx} = \frac{(CE_{Corn} * Q_{Corn}) + (CE_{SG} * Q_{SG}) + (2.9 * Q_{Bark}) + (7.92 * Q_{Wood}) + (100 * Q_{NG})}{2000 \text{ lbs/ton}}$$

Where:

- E_{NOx} = Emissions of NOx in tons per month
- CE_{Corn} = 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 emission factor shall be the lb/ton value as established by the stack test
- Q_{Corn} = Corn consumption in tons per month
- CE_{SG} = Compliance emission factor for NOx shall be 10.2 pounds NOx per ton switchgrass until an IDEM approved stack test is conducted. After a stack test is conducted, the emission factor shall be the lb/ton value as established by the stack test
- Q_{SG} = Switchgrass consumption in tons per month
- Q_{Bark} = Wood (including bark) consumption in tons per month
- Q_{Wood} = Wood pellets consumption in tons per month
- Q_{NG} = Natural Gas consumption in MMCF per month

$$E_{CO} = \frac{(CE_{Corn} * Q_{Corn}) + (CE_{SG} * Q_{SG}) + (7.74 * Q_{Bark}) + (9.48 * Q_{Wood}) + (84 * Q_{NG})}{2000 \text{ lbs/ton}}$$

Where

- E_{CO} = Emissions of CO in tons per month
- CE_{Corn} = 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 emission factor shall be the lb/ton value as established by the stack test
- Q_{Corn} = Corn consumption in tons per month.
- CE_{SG} = Compliance emission factor for NOx shall be 10.2 pounds NOx per ton switchgrass until an IDEM approved stack test is conducted. After a stack test is conducted, the emission factor shall be the lb/ton value as established by the stack test
- Q_{SG} = Switchgrass consumption in tons per month
- Q_{Bark} = Wood (including bark) consumption in tons per month
- Q_{Wood} = Wood pellets 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 46360
Mailing Address: P.O. Box 41, Michigan City, Indiana 46360
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 46360
Mailing Address: P.O. Box 41, Michigan City, Indiana 46360
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 "No deviations occurred this reporting period".</p>	
<p><input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.</p>	
<p><input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	

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 46360

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 46360, completed construction of the biomass-fired boiler and associated biomass 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

Technical Support Document (TSD) for a Significant Permit Revision to a Federally Enforceable State Operating Permit (FESOP)

Source Description and Location

Source Name:	Indiana State Prison
Source Location:	42 Park Road, Michigan City, Indiana 46360
County:	LaPorte
SIC Code:	9223
Operation Permit No.:	F 091-24741-00032
Operation Permit Issuance Date:	November 30, 2007
Significant Permit Revision No.:	091-26420-00032
Permit Reviewer:	Anne-Marie C. Hart

On April 14, 2008, the Office of Air Quality (OAQ) has received an application from Indiana State Prison related to a modification to an existing corn-fired boiler.

Existing Approvals

The source was issued FESOP No. F091-24741-00032 on November 30, 2007.

County Attainment Status

The source is located in LaPorte County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective July 19, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.

¹Unclassifiable or attainment effective November 15, 1990, for the 1-hour standard which was revoked effective June 15, 2005.
Unclassifiable or attainment effective April 5, 2005, for PM_{2.5}.

(a) Ozone Standards

- (1) 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.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.

- (4) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. LaPorte County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM2.5**
 LaPorte County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.
- (c) **Other Criteria Pollutants**
 LaPorte County has been classified as attainment or unclassifiable in Indiana for SO₂, CO, PM₁₀ and Lead Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

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

Status of the Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all federally enforceable limits and federally enforceable controls established in FESOP No. 091-24742-00032:

Process/Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)							
	PM	PM10	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Boiler #1 (Corn-Fired)	12.05	29.52	54.20	<90.3	2.05	<97.0	4.04	2.29 Hydrogen Chloride
Boiler #2 (Natural Gas-Fired)	0.31	1.25	0.10		0.90		0.31	0.30 Hexane
Boiler #3 (Natural Gas-Fired)	0.31	1.25	0.10		0.90		0.31	0.30 Hexane
Boiler #4 (Natural Gas-Fired)	0.31	1.25	0.10		0.90		0.31	0.30 Hexane
Two Diesel-Fired Emergency Generators	0.64	0.64	0.60	<9.0	0.73	1.94	Negl.	Negl. Propylene
Truck Unloading	88.30	28.90	0.00	0.00	0.00	0.00	0.00	0.00
Corn Silo and Handling System **	75.40	<29.30	0.00	0.00	0.00	0.00	0.00	0.00
Ash Handling **	2.40	2.40						
Total PTE of Entire Source	179.72	94.51	55.1	<100	5.48	<100	4.97	3.19

Process/Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)							
	PM	PM10	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Title V Major Source Thresholds	NA	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	NA	NA
Emission Offset Major Source Thresholds	100	100	100	100	100	100	NA	NA
negl. = negligible These emissions are based upon FESOP 091-24741-00032 issued November 30, 2007. ** Potential to emit before baghouse and cyclone controls.								

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (b) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the unlimited potential to emit HAPs are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Indiana State Prison - Michigan City on April 14, 2008, relating to modification of an existing boiler, identified as Boiler #1, to burn wood (including bark), wood pellets and switchgrass. The boiler was approved for construction in 2007 (FESOP No. 091-24741-00032, issued November 30, 2007) to burn untreated corn.

The following is a list of the modified emission unit and pollution control device:

- (a) One (1) biomass-fired boiler system including one (1) boiler identified as Boiler #1, capable of combusting untreated corn, wood (including bark), wood pellets and switchgrass, with a maximum heat input capacity of 27.5 MMBtu/hr, and one (1) natural gas ignition burner with a maximum heat capacity of 1.075 MMBtu/hr for cold boiler starts with emissions controlled by a cyclone and exhausting to Boiler Stack #1. This facility was permitted in 2007 and modified in 2008.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-8.11.1. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/Emission Unit	PTE of Proposed Revision (tons/year)							
	PM	PM10*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Boiler #1 (Biomass-fired)	67.45	62.27	3.01	26.50	1.57	72.27	4.25	2.29 HCl
Total PTE of Proposed Revision	67.45	62.27	3.01	26.50	1.57	72.27	4.25	2.29 HCl

negl. = negligible
 * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

This FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(f)(1)(E) because the revision involves the modification of one boiler, identified as Boiler #1, to run on untreated corn, wood (including bark), wood pellets or switchgrass with potential to emit (PTE) greater than 25 tons per year.

The use of switchgrass as an alternative fuel source will also include a permit condition requiring the source to perform a stack test to determine appropriate emissions factors associated with the combustion of switchgrass.

In addition, a PM₁₀ limit for Biomass Handling is being added to Section D.2 of the permit in order to limit the source-wide potential to emit to within FESOP levels.

PTE of the Entire Source After Issuance of the FESOP Revision

The table below summarizes the potential to emit of the entire source, with updated emissions shown as **bold** values and previous emissions shown as ~~strikethrough~~ values.

Process/Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)							
	PM	PM10*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Boiler #1 (Corn Biomass-Fired)	42.05 16.86	29.52 40.48	54.20	<90.3	2.05	<97.0	4.04	2.29 Hydrogen Chloride
Boiler #2 (Natural Gas-Fired)	0.31	1.25	0.10		0.90		0.31	0.30 Hexane
Boiler #3 (Natural Gas-Fired)	0.31	1.25	0.10		0.90		0.31	0.30 Hexane
Boiler #4 (Natural Gas-Fired)	0.31	1.25	0.10		0.90		0.31	0.30 Hexane
Two Diesel-Fired Emergency Generators	0.64	0.64	0.60	<9.0	0.73	1.94	Negl.	Negl. Propylene

Process/Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)							
	PM	PM10*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
PSD Major Source Thresholds	250	250	250	250	250	250	NA	NA
Emission Offset Major Source Thresholds	100	100	100	100	100	100	NA	NA

negl. = negligible
 * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

(a) FESOP Status

This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

- (1) The total amount of fuel (biomass 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.
- (2) The total amount of fuel (biomass 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.
- (3) 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 NO_x emissions to less than 9.0 tons per year.
- (4) The cyclone, used for control on Boiler #1, shall be in operation at all times Boiler #1 is in operation in order to control the PM₁₀ emissions from boiler B-1.
- (5) The PM₁₀ emissions from the baghouse controlling the emissions from biomass silo and handling system shall not exceed 5.44 pounds per hour.

Compliance with these limits, combined with the potential to emit NO_x, CO and PM₁₀ from all other emission units at this source, shall limit the source-wide total potential to emit of NO_x, CO and PM₁₀ to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD), not applicable.

(b) PSD Minor Source

This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) 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.
- (b) 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.
- (c) 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.
- (d) 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.
- (e) 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 biomass-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.

- (f) There are no other New Source Performance Standards (NSPS)(40 CFR Part 60) included for this proposed revision).

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (g) 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.

- (h) 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.
- (i) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability Determination

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from Boiler #1 is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (d) 326 IAC 2-6 (Emission Reporting)
Since this source is located LaPorte County, and has a potential to emit NOx greater than or equal to twenty-five (25) tons per year, an emission statement covering the previous calendar year must be submitted by July 1 of each year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.
- (e) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

- (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
 Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

Biomass-Fired Boiler

- (g) 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.

The potential to emit particulate from Boiler #1, before controls, is 0.56 lb/MMBtu. However, the potential to emit particulate from Boiler #1, after controls, is 0.14 lb/MMBtu. Therefore, the source shall operate the cyclone whenever Boiler #1 is in operation in order to comply with this limit.

- (h) 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) biomass-fired boiler (Boiler #1) is subject to the rule because the potential emissions are greater than twenty five (25) tons per year when burning biomass. However, since the biomass fired-boiler does not burn any of the fuels listed in 326 IAC 7-1.1-2, the requirements of this rule do not apply.
- (i) 326 IAC 12 (New Source Performance Standards)
 See Federal Rule Applicability Section of this TSD.

Compliance Determination, Monitoring and Testing Requirements
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- (a) The compliance determination and monitoring requirements applicable to this proposed revision are as follows:

Emission Unit/Control	Operating Parameters	Frequency
Boiler #1/Cyclone	Visible Emission Notations	Once per day
Biomass Handling/Baghouse	Visible Emission Notations	Once per day
Biomass Handling/Baghouse	Pressure Drop	Once per Day

(b) The testing requirements applicable to this proposed revision are as follows:

Testing Requirements				
Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Boiler #1 (when burning switchgrass)	Cyclone	PM PM ₁₀ NOx VOC SO ₂ CO	No later than 180 after initial usage of switchgrass as a fuel	Once every five years

Proposed Changes

(a) The following changes listed below are due to the proposed revision. Deleted language appears as ~~strike through~~ text and new language appears as **bold** text:

(1) Descriptive language in Condition A.2 (Emission Units and Pollution Control Equipment Summary), Section D.1 (Facility Description), and Section D.2 (Facility Description) is revised to reflect the modification to use biomass in Boiler #1, and the storage and handling of biomass at the source as follows:

* * *

(b) One (1) ~~corn~~ **biomass**-fired boiler system including one (1) ~~untreated corn-fired~~ boiler identified as Boiler # 1, **capable of combusting untreated corn, wood (including bark), wood pellets and switchgrass** 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~~ **was** permitted in 2007 **and modified in 2008**.

(c) One (1) ~~corn~~ **biomass** handling and storage operation, approved to be constructed in 2007 and **modified in 2008**, consisting of the following:

- (1) One (1) truck unloading operation with a maximum throughput of 224,000 pounds of ~~corn~~ **biomass** per hour.
- (2) One (1) ~~corn~~ **biomass** storage silo, with a maximum storage capacity of 762,552 pounds of ~~corn~~ **biomass** (volumetric capacity 15,987 cubic feet), with emissions controlled by a baghouse and exhausting through one (1) stack.
- (3) One (1) ~~corn~~ **biomass** handling system with a maximum throughput of 252,000 pounds per hour, with emissions controlled by a baghouse including: ~~five (5)~~ **six (6)** augers, one (1) conveyor, one (1) bucket elevator, and one (1) metering bin.

* * *

(2) Conditions D.1.2 (Particulate Matter Limitation (PM)), D.1.3 (FESOP and PSD Minor Source Limit), D.1.5 (Particulate Control), D.1.6 (Nitrogen Oxide Emissions), D.1.7 (Carbon Monoxide Emissions), D.1.8 (Testing Requirements), D.1.10 (Visible Emissions Notations), D.1.11 (Record Keeping Requirements), D.1.13 (General Provisions Relating to New Source Performance Standards), D.1.14 (Standards of Performance for Small Industrial- Commercial-Institutional Steam Generating Units Requirements), and D.1.15 (One Time Deadlines Relating to Small

Industrial-Commercial-Institutional Steam Generating Units) are revised to reflect the use of biomass in Boiler #1 as follows:

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 ~~one~~ **biomass**-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 (~~one~~ **untreated corn, wood (including bark), wood pellets, switchgrass** 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 (~~one~~ **untreated corn, wood (including bark), wood pellets, switchgrass** 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.
- (d) **When burning corn in Boiler #1, the Permittee shall only burn untreated corn.**

~~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).~~

Compliance with the above limits, combined with the potential to emit NOx and CO from other emission units at the source, shall limit the NOx and CO from the entire source to less than 100 tons per twelve (12) consecutive month period render 326 IAC 2-7 and 326 IAC 2-2 not applicable.

* * *

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~~ **biomass**-fired boiler (Boiler #1) at all times that the ~~corn~~ **biomass** -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:

$$E_{NOx} = \frac{(CE_{NOxCorn} * Q_{Corn}) + (CE_{SG} * Q_{SG}) + (2.9 * Q_{Bark}) + (7.92 * Q_{Wood}) + (100 * Q_{NG})}{2000 \text{ lbs/ton}}$$

Where:

E_{NOx}	=	Emissions of NOx in tons per month
$CE_{NOxCorn}$	=	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 emission factor shall be the lb/ton value as established by the stack test
Q_{Corn}	=	Corn consumption in tons per month
CE_{SG}	=	Compliance emission factor for NOx shall be 10.2 pounds NOx per ton switchgrass until an IDEM approved stack test is conducted. After a stack test is conducted, the emission factor shall be the lb/ton value as established by the stack test
Q_{SG}	=	Switchgrass consumption in tons per month
Q_{Bark}	=	Wood (including bark) consumption in tons per month
Q_{Wood}	=	Wood pellets 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:

$$E_{CO} = \frac{(CE_{COCorn} * Q_{Corn}) + (CE_{SG} * Q_{SG}) + (7.74 * Q_{Bark}) + (9.48 * Q_{Wood}) + (84 * Q_{NG})}{2000 \text{ lbs/ton}}$$

Where

E_{CO}	=	Emissions of CO in tons per month
CE_{COCorn}	=	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 emission factor shall be the lb/ton value as established by the stack test
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
CE_{SG}	=	Compliance emission factor for NOx shall be 10.2 pounds NOx per ton switchgrass until an IDEM approved stack test is conducted. After a stack test is conducted, the emission factor shall be the lb/ton value as established by the stack test
Q_{SG}	=	Switchgrass consumption in tons per month
Q_{Bark}	=	Wood (including bark) consumption in tons per month

Q_{Wood} = **Wood pellets consumption in tons per month**

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]

- (a) 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 usage~~ **untreated corn as a fuel in the corn-fired bBoiler #1 (Boiler #1)**, the Permittee shall perform PM, PM10, SO₂, NO_x, CO, VOC, and HCl testing for ~~the corn-fired bBoiler #1~~ **when burning untreated corn** utilizing methods as approved by the Commissioner. PM-10 includes filterable and condensable PM-10. ~~At~~ **If the Commissioner determines that valid stack test results from a similar boiler operated by the Indiana Department of Corrections is not representative of emissions from Boiler #1, stack 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.**
- (b) **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 eighty (180) days after initial usage of switchgrass as a fuel in Boiler #1, the Permittee shall perform PM, PM10, SO₂, NO_x, CO and VOC testing for Boiler #1 when burning switchgrass utilizing methods as approved by the Commissioner. PM10 includes filterable and condensable PM10. If the Commissioner determines that valid stack test results from a similar boiler operated by the Indiana Department of Corrections is not representative of emissions from Boiler #1, stack 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.**

* * *

D.1.10 Visible Emissions Notations

- (a) When combusting ~~corn~~ **biomass**, 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.

* * *

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~~ **each type of fuel (untreated corn, wood (including bark), wood pellets, switchgrass** 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.

* * *

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~~ **biomass** fired boiler (Boiler #1) except as otherwise specified in 40 CFR Part 60, Subpart Dc.

* * *

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~~ **biomass** fired boiler (Boiler #1) as specified as follows.

* * *

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~~ **biomass**-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~~ **biomass**-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.
- (3) Condition D.2.1 (Particulate) is revised to reflect the use of biomass in Boiler B-1, as follows:

* * *

Emission Unit	Process Weight Rate (tons/hour)	Particulate Emission Limit (lbs/hr)
Truck Unloading Operation	112	52.4
Corn Biomass Handling System	126	53.6
Ash handling System	0.25	1.62

- (4) Emission limitations, compliance determination, compliance monitoring, and record keeping requirements (Conditions D.2.2 through D.2.8) are added as follows:

D.2.2 PM₁₀ Limitations [326 IAC 2-8-4]

The PM₁₀ emissions from the baghouse controlling the emissions from biomass silo and handling system shall not exceed 5.44 pounds per hour. Compliance with this limit, combined with the PM₁₀ emissions from the other emission units at this source shall limit the source-wide potential to emit PM₁₀ to less than 100 tons per twelve (12) consecutive month period, and render 326 IAC 2-7 (Part 70 Program) not applicable.

D.2.3 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 any control devices.

Compliance Determination Requirements

D.2.4 Particulate Control

- (a) In order to comply with Condition D.2.2, the biomass silo and handling system shall be controlled by a baghouse when these units are in operation.**
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.**

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

D.2.5 Visible Emissions Notations

- (a) Visible emission notations of the baghouse stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eight percent (80%) of the time the process is in operation, not counting startup or shutdown 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.**

D.2.6 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the biomass silo and handling system at least once per day when these units are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 to 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.**

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

D.2.7 Broken or Failed Bag Detection

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

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

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

D.2.8 Record Keeping Requirements

- (a) To document compliance with D.2.5, the Permittee shall maintain records of daily visible emission notations of the baghouse stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (b) To document compliance with D.2.6, the Permittee shall maintain daily records of pressure drop for baghouses during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.
- (5) The FESOP Quarterly Report form is revised to reflect the use of biomass in Boiler #1 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~~ **Biomass** or equivalent fuel usage
 Limit: (a) The total amount of fuel (**untreated corn, wood (including bark), wood pellets, switchgrass** 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 (**untreated corn, wood (including bark), wood pellets, switchgrass**, 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.

$$E_{NOx} = \frac{(CE_{NOxCorn} * Q_{Corn}) + (CE_{SG} * Q_{SG}) + (2.9 * Q_{Bark}) + (7.92 * Q_{Wood}) + (100 * Q_{NG})}{2000 \text{ lbs/ton}}$$

Where:

- E_{NOx} = Emissions of NOx in tons per month
 $CE_{NOxCorn}$ = 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~~ **emission factor** shall be the lb/ton value as established by the stack test
 Q_{Corn} = Corn consumption in tons per month
 CE_{SG} = **Compliance emission factor for NOx shall be 10.2 pounds NOx per ton switchgrass until an IDEM approved stack test is conducted. After a stack test is conducted, the emission factor shall be the lb/ton value as established by the stack test**
 Q_{SG} = **Switchgrass consumption in tons per month**
 Q_{Bark} = **Wood (including bark) consumption in tons per month**
 Q_{Wood} = **Wood pellets consumption in tons per month**
 Q_{NG} = Natural Gas consumption in MMCF per month

$$E_{CO} = \frac{(CE_{COCorn} * Q_{Corn}) + (CE_{SG} * Q_{SG}) + (7.74 * Q_{Bark}) + (9.48 * Q_{Wood}) + (84 * Q_{NG})}{2000 \text{ lbs/ton}}$$

Where

- E_{CO} = Emissions of CO in tons per month
 CE_{COCorn} = 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 emission factor shall be the lb/ton value as established by the stack test**
 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~~
 CE_{SG} = **Compliance emission factor for NOx shall be 10.2 pounds NOx per ton switchgrass until an IDEM approved stack test is conducted. After a stack test is conducted, the emission factor shall be the lb/ton value as established by the stack test**
 Q_{SG} = **Switchgrass consumption in tons per month**
 Q_{Bark} = **Wood (including bark) consumption in tons per month**
 Q_{Wood} = **Wood pellets consumption in tons per month**
 Q_{NG} = Natural Gas consumption in MMCF per month

* * *

(6) Condition C.17 (Emission Statement) included as follows:

C.17 Emission Statement [326 IAC 2-6]

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

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

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

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on April 14, 2008.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 091-26420-00032. The staff recommends to the Commissioner that this FESOP Significant Permit Revision be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Anne-Marie C. Hart at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5401 or toll free at 1-800-451-6027 extension 4-5401.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Company Name: Indiana State Prison - Michigan City
Address City IN Zip: 42 Park Road, Michigan City, Indiana 46360
Permit #: 091-26420-00032
Plt ID: 091-00032
Reviewer: Anne-Marie C. Hart
Date: May 16, 2008

Fuel	tons/year						
	PM	PM10	SO2	NOx	VOC	CO	HAP*
Uncontrolled							
Bark or Bark & Wet Wood	67.45	67.27	3.01	26.50	1.57	72.27	4.25
Dry Wood	48.18	45.41	3.01	59.02	1.57	72.27	4.25
Wet Wood	39.75	36.98	3.01	26.50	1.57	72.27	4.25
Controlled							
Bark or Bark & Wet Wood	16.86	40.48	3.01	26.50	1.57	72.27	4.25
Dry Wood	12.05	29.52	3.01	59.02	1.57	72.27	4.25
Wet Wood	9.94	32.16	3.01	26.50	1.57	72.27	4.25

* Combination of all HAPs

Worst-Case HAP: Hydrogen Chloride = 2.29 tons/year

Emissions associated with corn combustion are less than the Bark or Bark & Wet Wood emissions and are not considered the worst-case fuel for Boiler B-1.

No emission factors exist for the combustion of switchgrass as a fuel. A stack test will be required within 180 days of initial usage of switchgrass in Boiler B-1 in order to determine appropriate emission factors.

**Appendix A: Emissions Calculations
External Combustion Boiler
Wood Waste Combustion (uncontrolled)
Bark/Bark and Wet Wood**

Company Name: Indiana State Prison - Michigan City
Address City IN Zip: 42 Park Road, Michigan City, Indiana 46360
CP: 091-26420-00032
Plt ID: 091-00032
Reviewer: Anne-Marie C. Hart
Date: May 16, 2008

Capacity (MMBtu/hr)

27.5

Cyclone Control Efficiency 75% PM 35% PM10
--

Emission Factor in lb/MMBtu	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO**
0.56	0.517	0.025	0.22	0.013	0.6	
Potential Emissions in tons/yr	67.45	62.27	3.01	26.50	1.57	72.27
Controlled Emissions in tons/yr	16.86	40.48	3.01	26.50	1.57	72.27

Wet wood is considered to be greater than or equal to 20% moisture content. Dry wood is considered to be less than 20% moisture content.

*The PM10 and PM2.5 emission factors include the condensible PM emission factor of 0.017 lb/MMBtu, measured by EPA Method 202 (or equivalent) and the appropriate filterable PM emission factor, measured by EPA Method 5 (or equivalent). The PM emission factor is filterable PM measured by EPA Method 5 (or equivalent).

**The CO emission factor is for stokers and dutch ovens/fuel cells. Change the emission factor to 0.17 lb/MMBtu if the calculations are for a fluidized bed combustor.

Pursuant to 326 IAC 6-2-4, the PM limit for Boiler #1 is 0.30 lbs/mmBtu

Methodology

To convert from tons/hr capacity to MMBtu/hr capacity:

$$\text{Heat Input Capacity (MMBtu/hr)} = \text{Capacity (tons/hr)} \times \text{Higher Heating Value of wood fuel (Btu/lb)} \times (1 \text{ MMBtu}/10^6 \text{ Btu}) \times 2000 \text{ lbs}/1 \text{ ton}$$

Emission Factors are from AP-42 Chapter 1.6 (revised 3/02), SCCs #1-0X-009-YY where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional; Y = 01 for bark-fired boilers, 02 for bark and wet wood-fired boilers, 03 for wet wood-fired boilers, and 08 for dry wood-fired boilers

$$\text{Emissions (tons/yr)} = \text{Capacity (MMBtu/hr)} \times \text{Emission Factor (lb/MMBtu)} \times 8760\text{hrs/yr} \times 1\text{ton}/2000\text{lbs}$$

**Appendix A: Emissions Calculations
External Combustion Boiler
Wood Waste Combustion (uncontrolled)
Dry Wood**

**Company Name: Indiana State Prison - Michigan City
Address City IN Zip: 42 Park Road, Michigan City, Indiana 46360
CP: 091-26420-00032
Plt ID: 091-00032
Reviewer: Anne-Marie C. Hart
Date: May 16, 2008**

Capacity (MMBtu/hr) 27.5

Cyclone Control Efficiency
75% PM
35% PM10

Emission Factor in lb/MMBtu	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO**
	0.4	0.377	0.025	0.49	0.013	0.6
Potential Emissions in tons/yr	48.18	45.41	3.01	59.02	1.57	72.27
Controlled Emissions in tons/yr	12.05	29.52	3.01	59.02	1.57	72.27

Wet wood is considered to be greater than or equal to 20% moisture content. Dry wood is considered to be less than 20% moisture content.

*The PM10 and PM2.5 emission factors include the condensible PM emission factor of 0.017 lb/MMBtu, measured by EPA Method 202 (or equivalent) and the appropriate filterable PM emission factor, measured by EPA Method 5 (or equivalent). The PM emission factor is filterable PM measured by EPA Method 5 (or equivalent).

**The CO emission factor is for stokers and dutch ovens/fuel cells. Change the emission factor to 0.17 lb/MMBtu if the calculations are for a fluidized bed combustor.

Pursuant to 326 IAC 6-2-4, the PM limit for Boiler #1 is 0.30 lbs/mmBtu

Methodology

To convert from tons/hr capacity to MMBtu/hr capacity:

$$\text{Heat Input Capacity (MMBtu/hr)} = \text{Capacity (tons/hr)} \times \text{Higher Heating Value of wood fuel (Btu/lb)} \times (1 \text{ MMBtu}/10^6 \text{ Btu}) \times 2000 \text{ lbs/1 ton}$$

Emission Factors are from AP-42 Chapter 1.6 (revised 3/02), SCCs #1-0X-009-YY where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional; Y = 01 for bark-fired boilers, 02 for bark and wet wood-fired boilers, 03 for wet wood-fired boilers, and 08 for dry wood-fired boilers

$$\text{Emissions (tons/yr)} = \text{Capacity (MMBtu/hr)} \times \text{Emission Factor (lb/MMBtu)} \times 8760\text{hrs/yr} \times 1\text{ton}/2000\text{lbs}$$

**Appendix A: Emissions Calculations
External Combustion Boiler
Wood Waste Combustion (uncontrolled)
Wet Wood**

**Company Name: Indiana State Prison - Michigan City
Address City IN Zip: 42 Park Road, Michigan City, Indiana 46360
CP: 091-26420-00032
Plt ID: 091-00032
Reviewer: Anne-Marie C. Hart
Date: May 16, 2008**

Capacity (MMBtu/hr)

27.5

Cyclone Control Efficiency 75% PM 35% PM10
--

Emission Factor in lb/MMBtu	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO**
	0.33	0.307	0.025	0.22	0.013	0.6
Potential Emissions in tons/yr	39.75	36.98	3.01	26.50	1.57	72.27
Controlled Emissions in tons/yr	9.94	24.04	3.01	26.50	1.57	72.27

Wet wood is considered to be greater than or equal to 20% moisture content. Dry wood is considered to be less than 20% moisture content.

*The PM10 and PM2.5 emission factors include the condensible PM emission factor of 0.017 lb/MMBtu, measured by EPA Method 202 (or equivalent) and the appropriate filterable PM emission factor, measured by EPA Method 5 (or equivalent). The PM emission factor is filterable PM measured by EPA Method 5 (or equivalent).

**The CO emission factor is for stokers and dutch ovens/fuel cells. Change the emission factor to 0.17 lb/MMBtu if the calculations are for a fluidized bed combustor.

Pursuant to 326 IAC 6-2-4, the PM limit for Boiler #1 is 0.30 lbs/mmBtu

Methodology

To convert from tons/hr capacity to MMBtu/hr capacity:

$$\text{Heat Input Capacity (MMBtu/hr)} = \text{Capacity (tons/hr)} \times \text{Higher Heating Value of wood fuel (Btu/lb)} \times (1 \text{ MMBtu}/10^6 \text{ Btu}) \times 2000 \text{ lbs}/1 \text{ ton}$$

Emission Factors are from AP-42 Chapter 1.6 (revised 3/02), SCCs #1-0X-009-YY where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional; Y = 01 for bark-fired boilers, 02 for bark and wet wood-fired boilers, 03 for wet wood-fired boilers, and 08 for dry wood-fired boilers

$$\text{Emissions (tons/yr)} = \text{Capacity (MMBtu/hr)} \times \text{Emission Factor (lb/MMBtu)} \times 8760\text{hrs/yr} \times 1\text{ton}/2000\text{lbs}$$

**Appendix A: HAPs Emissions Calculations
External Combustion Boiler
Wood Waste Combustion (uncontrolled)
All Wood Waste Fuel Types**

Company Name: Indiana State Prison - Michigan City
Address City IN Zip: 42 Park Road, Michigan City, Indiana 46360
CP: 091-26420-00032
Plt ID: 091-00032
Reviewer: Anne-Marie C. Hart
Date: May 16, 2008

Capacity (MMBtu/hr)

27.5

Emission Factor in lb/MMBtu	Selected Hazardous Air Pollutants						
	Acrolein	Benzene	Formaldehyde	Hydrogen Chloride	Styrene	Acetaldehyde	Toluene
4.0E-03	4.2E-03	4.4E-03	1.9E-02	1.9E-03	8.3E-04	9.2E-04	
Potential Emissions in tons/yr	4.82E-01	5.06E-01	5.30E-01	2.29E+00	2.29E-01	1.00E-01	1.11E-01
						Total HAPs	4.25E+00

Methodology

To convert from tons/hr capacity to MMBtu/hr capacity:

$$\text{Heat Input Capacity (MMBtu/hr)} = \text{Capacity (tons/hr)} \times \text{Higher Heating Value of wood fuel (Btu/lb)} \times (1 \text{ MMBtu}/10^6 \text{ Btu}) \times 2000 \text{ lbs}/1 \text{ ton}$$

Emission Factors are from AP-42 Chapter 1.6 (revised 3/02), SCCs #1-0X-009-YY where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional; Y = 01 for bark-fired boilers, 02 for bark and wet wood-fired boilers, 03 for wet wood-fired boilers, and 08 for dry wood-fired boilers

$$\text{Emissions (tons/yr)} = \text{Capacity (MMBtu/hr)} \times \text{Emission Factor (lb/MMBtu)} \times 8760 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs}$$

These factors include the seven HAPs with the highest AP-42 emission factors.