INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

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Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

June 30, 2004

TO: Interested Parties / Applicant

RE: Purdue University / 157-7340-00012

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, 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 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).
For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

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.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

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
FNTVOP.dot 9/16/03

PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

Purdue University
401 South Grant Street
1665 L.J. Freehafer Hall Of Administrative Service
West Lafayette, Indiana 47907-1665

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

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. 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 2-7 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 2-7-10.5, applicable to those conditions.

Operation Permit No.: T157-7340-00012	
Issued by: Original Signed by Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: June 30, 2004 Expiration Date: June 30, 2009

TABLE OF CONTENTS

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, A.3, and A.4 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 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee operates stationary boilers and other support facilities for the educational services operations, located at Purdue University.

Responsible Official:	Vice President for Physical Facilities
Source Address:	401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Mailing Address:	401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Source Telephone:	765-496-6405
SIC Code:	8221
County Location:	Tippecanoe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

This source consists of air emission units located on the main campus in West Lafayette, Indiana, and facilities with regulated air emissions located at research farms in the vicinity of 5675 West, 600 North, West Lafayette, Indiana, for the Animal Sciences Research and Education Center.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a maximum capacity of 281 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 01. Boiler 1 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods. Boiler 1 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_x) and a continuous opacity monitor (COM).

(b) One (1) spreader stoker coal fired boiler, identified as Boiler 2, with installation completed in 1967, with a maximum capacity of 274 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 02. Boiler 2 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods. Boiler 2 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_x) and a continuous opacity monitor (COM).

(c) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation started in 1989 and completed in 1991, with a design capacity of 279 MMBtu/hr, with a

baghouse for particulate matter control and limestone injection for sulfur dioxide control, combusting natural gas for ignition, exhausting to stack WADE 05. Boiler 5 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

(d) One (1) natural gas and distillate fuel oil fired boiler, identified as Boiler 3, with installation started in 1973 or 1974 and completed in 1974, with a maximum capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

(e) One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a maximum capacity of 110 tons/hr, including: truck unloading station with two (2) hoppers; outdoor coal storage piles; two (2) vibratory feeders; one (1) underground belt conveyor with a magnetic separator; and one (1) bucket elevator terminating at the top of Wade Power House. Coal is fed to the bunkers for Boilers 1 and 2, and to the precrusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1 and Boiler 2 bunkers are controlled by a RotoClone for each bunker and exhaust to stack CB1 and CB2, respectively. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

(f) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a maximum capacity of 150 tons/hr, including: truck unloading station with outdoor storage piles and two (2) in-ground hoppers, two (2) vibratory feeders; one (1) totally enclosed tubular conveyor identified as BC-1 equipped with a magnetic separator and with emissions controlled by a baghouse exhausting to stack CV1; one (1) transfer enclosure with one (1) coal sampler, with emissions controlled by a baghouse exhausting to stack CV2; and one (1) totally enclosed tubular conveyor identified as BC-2 terminating at the top of Wade Power House, with emissions from the final transfer point controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boilers 1 and 2, and to the precrusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1 and Boiler 2 bunkers are controlled by a RotoClone for each bunker and exhaust to stack CB1and CB2, respectively.

(g) One (1) coal preparation system for Boiler 5, with installation started in 1989 or 1990 and completed in 1991, with a maximum capacity of 12.68 tons/hr, including: one (1) enclosed pre-crusher; one (1) coal storage silo (aka coal storage bunker) with a baghouse exhausting to stack CB5; two (2) weigh belt feeders; and two (2) enclosed crushers.

(h) One (1) pneumatic ash handling system for fly ash and bottom ash from Boilers 1 and 2, identified as ASH Segment 1, with a maximum capacity of 14 tons per hour, installed in approximately 1960 and modified in 2002. Ash/particulate matter collected from the primary, secondary and tertiary (baghouse) collection units is transferred to the existing ash silo. Ash accumulated in this silo is removed via a water mixer into trucks. Particulate matter that passes through the tertiary (baghouse) filter is exhausted to stack ASH1 while air from the ash silo is directed to a final filter before exhausting to stack AB1. Ash/particulate matter is transported through the system by an electric vacuum pump.

(i) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 5, identified as ASH Segment 2, installed in 1991 and modified in 2002, exhausting to stacks ASH5A and ASH5B, with a maximum capacity of 20 tons/hr, with dust from ash transfer to the storage silo controlled by primary and secondary separator with tertiary baghouse filter. Ash is transferred from the silo to trucks at a maximum capacity of 300 tons/hr; dust is controlled by water mix, or by use of a telescoping spout with air displaced from the truck directed through a “filter module” with five canister filters which exhaust to the atmosphere though a vent, ASH 5C.

(j) Material handling for the limestone injection system for Boiler 5, including pneumatic conveyance from truck to bulk storage in a silo outside or to a "day bin" inside the plant at an offload rate of approximately 12.5 tons per hour; gravity fed from day bin into the boiler. Particulate emissions are controlled by a baghouse on the silo and filter cartridges on the day bin. The feed rate of limestone to the boiler varies depending on the sulfur content of the coal being fired; the average feed rate is 1 ton per hour, and the maximum rate is approximately 5 tons/hour.

(k) One (1) 6.5 MMBtu/hr natural gas fired dual chamber animal carcass incinerator, identified as ADDL, installed in 1991, with an 800 lb/hr waste capacity, exhausting to stack PUADDL1.

(l) One (1) 17.7 MMBtu/hr no. 2 fuel oil fired Black Start electric generator, identified as BSG, exhausting through stack BSG-1, with a fuel limit of 113,000 gallons per year.

(m) Two (2) portable pumps powered by 350 HP no. 2 diesel fueled engines and mounted on tri-axle trailers, operated intermittently (approximately 500 hours per year each), used for pumping lagoon material to the spray irrigation system and to transfer material from one lagoon to another.

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Boilers using the following fuels:

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including three (3) natural gas fired Aviation Tech Building Boilers with low-NO_X combustion systems, installed in 2000, each with 2.8 MMBtu/hr heat input capacity, identified as AV Tech Boiler 1, AV Tech Boiler 2, and AV Tech Boiler 3.

(2) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.

(3) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) Btu per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight.

(b) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3]

(c) Cleaners and solvents characterized as follows: [326 IAC 8-3]

(1) Having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 degrees C (100EF) or;

(2) Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20EC (68EF); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

(d) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]

(e) Covered conveyors for limestone conveying of less than or equal to 7,200 tons per day for sources other than mineral processing plants constructed after August 31, 1983. [326 IAC 6-3]

(f) Coal bunker and coal scale exhausts and associated dust collector vents. [326 IAC 6-3]

(g) Furnaces used for melting metals other than beryllium with a brim full capacity of less than or equal to 450 cubic inches by volume. [326 IAC 6-3]

(h) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
[326 IAC 6-3]

(i) Other activities or categories not previously identified with potential, uncontrolled emissions equal to or less than thresholds require listing only: Pb 0.6 ton per year or 3.29 pounds per day, SO_2 5 pounds per hour or 25 pounds per day, NO_X 5 pounds per hour or 25 pounds per day, CO 25 pounds per day, PM 5 pounds per hour or 25 pounds per day, VOC 3 pounds per hour or 15 pounds per day:

(1) One (1) No. 2 fuel oil fired animal carcass incinerator for poultry, installed in 1991 or 1992, with an afterburner and a 100 lb/hr waste capacity, located at the animal sciences farm, 5675 W 600 N, West Lafayette, Indiana; [326 IAC 4-2-1]

(2) One (1) No. 2 fuel oil fired animal carcass incinerator for swine, installed in 1991 or 1992, with an afterburner and a 100 lb/hr waste capacity, located at the animal sciences farm, 5675 W 600 N, West Lafayette, Indiana; [326 IAC 4-2-1]

(3) One (1) natural gas fired incinerator identified as RAD1, installed in 1986, with primary and secondary chambers and a 50 lb/hr waste capacity, for burning laboratory waste and non-infectious biological material contaminated with low level radioactivity, located at the By-Product Material Storage Building North (BMSN). [326 IAC 4-2-1]

(4) One (1) natural gas fired incinerator identified as RAD2, installed in 1996, with an afterburner and a 50 lb/hr waste capacity, for burning laboratory waste and non-infectious biological material contaminated with low level radioactivity, located at the By-Product Material Storage Building North (BMSN). [326 IAC 4-2-1]

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5]

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

B.3 Enforceability [326 IAC 2-7-7]

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.4 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(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 the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(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 a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification can cover multiple forms in one (1) submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(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 in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(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; and

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3).

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.

(c) 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 submittal of the PMP and the PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) To the extent the Permittee is required by 40 CFR Part 63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(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.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a 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, 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: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967.

(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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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 2-7-5(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(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) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(9) 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 2-7 and any other applicable rules.

(g) 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.

(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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 Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

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

(a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either

(1) incorporated as originally stated,

(2) revised, or

(3) deleted

by this permit.

(b) All previous registrations and permits are superseded by this permit.

B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 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 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 2-7-9(a)(3)]

(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 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(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 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4]

(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 2-7-4.

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 the "responsible official" as defined by 326 IAC 2-7-1(34). Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) 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.

(2) If IDEM, OAQ, upon receiving a timely and complete 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, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-7-3] [326 IAC 2-7-4]
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 2-7 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 a reasonable deadline specified in writing by IDEM, OAQ, any additional information identified as being needed to process the application. [326 IAC 2-7-4(a)(2)(D) and (E)]

(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]
If IDEM, OAQ, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

B.17 Source Modification [326 IAC 1-2-42] [326 IAC 2-7-10.5]

(a) The Permittee shall obtain approval as required by 326 IAC 2-7-10.5 from the IDEM, OAQ prior to making any modification to the source. Pursuant to 326 IAC 1-2-42, "Modification" means one (1) or more of the following activities at an existing source:

(1) A physical change or change in the method of operation of any existing emissions unit that increases the potential to emit any regulated pollutant that could be emitted from the emissions unit, or that results in emissions of any regulated pollutant not previously emitted.

(2) Construction of one (1) or more new emissions units that have the potential to emit regulated air pollutants.

(3) Reconstruction of one (1) or more existing emission units that increases the potential to emit of any regulated air pollutant.

(b) Any application requesting a source modification shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee shall also comply with the applicable provisions of 326 IAC 2-7-11 (Administrative Permit Amendments) or 326 IAC 2-7-12 (Permit Modification) prior to operating the approved modification.

B.18 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12] [40 CFR 72]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

(d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

B.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.20 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), 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 preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable under 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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 which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20(b), (c), or (e) and makes 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 2-7-20(b)(1), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in 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 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(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 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) 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.21 Inspection and Entry [326 IAC 2-7-6] [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 Part 70 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 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 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 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.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [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) Except as provided in 326 IAC 2-7-19(e), 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.24 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314]

Notwithstanding the conditions of this permit that state specific methods that may be used to demonstrate compliance with, or a violation of, applicable requirements, any person (including the Permittee) may also use other credible evidence to demonstrate compliance with, or a violation of, any term or condition of this permit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [40 CFR 52 Subpart P] [326 IAC 6-3-2]

(a) Pursuant to 40 CFR 52 Subpart P, particulate matter emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

(b) 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. This condition is not federally enforceable.

C.2 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.3 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. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

C.4 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. 326 IAC 9-1-2 is not federally enforceable.

C.5 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). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Motor Vehicle Fugitive Dust Sources [326 IAC 6-4-4]

Pursuant to 326 IAC 6-4-4, no vehicle shall be driven or moved on any public street, road, alley, highway, or other thoroughfare, unless such vehicle is so constructed as to prevent its contents from dripping, sifting, leaking, or otherwise escaping therefrom so as to create conditions which result in fugitive dust. This section applies only to the cargo any vehicle may be conveying and mud tracked by the vehicle.

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. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

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

The Permittee shall comply with the applicable requirements of 326 IAC 14-10, 326 IAC 18, and 40 CFR 61.140.

Testing Requirements [326 IAC 2-7-6(1)]

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

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.12 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment. For a boiler, the COM shall be in operation at all times that the induced draft fan is in operation.

(b) All continuous opacity monitoring systems shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No. 1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

(c) In the event that a breakdown of a continuous opacity monitoring system occurs, a record shall be made of the time and reason of the breakdown and efforts made to correct the problem.

(d) Whenever a continuous opacity monitor (COM) is malfunctioning or will be down for calibration, maintenance, or repairs for a period of one (1) hour or more, compliance with the applicable opacity limits shall be demonstrated by the following:

(1) Visible emission (VE) notations shall be performed once per hour during daylight operations following the shutdown or malfunction of the primary COM. A trained employee shall record whether emissions are normal or abnormal for the state of operation of the emission unit at the time of the reading.

(A) 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.

(B) If abnormal emissions are noted during two consecutive emission notations, the Permittee shall begin Method 9 opacity observations within four hours of the second abnormal notation.

(C) VE notations may be discontinued once a COM is online or formal Method 9 readings have been implemented.

(2) If a COM is not online within twenty-four (24) hours of shutdown or malfunction of the primary COM, the Permittee shall provide certified opacity reader(s), who may be employees of the Permittee or independent contractors, to self-monitor the emissions from the emission unit stack.

(A) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.

(B) Method 9 opacity readings shall be repeated for a minimum of five (5)

consecutive six (6) minute averaging periods at least once every four (4) hours during daylight operations, until such time that a COM is in operation.

(C) Method 9 readings may be discontinued once a COM is online.

(D) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.

(3) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous opacity monitoring system pursuant to 326 IAC 3-5 and 40 CFR 60.

C.13 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.14 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading, unless applicable State or Federal statutes provide for a different level of accuracy.

(b) Whenever a condition in this permit requires the measurement of a voltage, current, temperature or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading, unless applicable State or Federal statutes provide for a different level of accuracy.

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

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.15 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on December 28, 1979.

(b) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.16 Risk Management Plan [326 IAC 2-7-5(12)] [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.17 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. If a Permittee is required to have an Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan under 40 CFR 63, such plans shall be deemed to satisfy the requirements for a CRP for those compliance monitoring conditions. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:

(1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.

(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan to include such response steps taken.

The OMM Plan or Parametric Monitoring and SSM Plan shall be submitted within the time frames specified by the applicable 40 CFR 63 requirement.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:

(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan; or

(2) If none of the reasonable response steps listed in the Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.

(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be ten (10) days or more until the unit or device will be shut down, then the Permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down. The notification shall also include the status of the applicable compliance monitoring parameter with respect to normal, and the results of the response actions taken up to the time of notification.

(4) Failure to take reasonable response steps shall be considered a deviation from

the permit.

(c) The Permittee is not required to take any further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.

(e) The Permittee shall record all instances when, in accordance with Section D, response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(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 and 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.19 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

(a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant which is used only for purposes of Section 19 of this rule") from the source, for purposes of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.20 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(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.21 General Reporting Requirements [326 IAC 2-7-5(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(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.22 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.

(d) Pursuant to 40 CFR 82, Subpart E (The Labeling of Products Using Ozone-Depleting Substances), all containers in which a Class I or Class II substance is stored or transported and all products containing a Class I substance shall be labeled as required under 40 CFR Part 82.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a maximum capacity of 281 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 01. Boiler 1 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods. Boiler 1 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X) and a continuous opacity monitor (COM).

(b) One (1) spreader stoker coal fired boiler, identified as Boiler 2, with installation completed in 1967, with a maximum capacity of 274 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 02. Boiler 2 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods. Boiler 2 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X) and a continuous opacity monitor (COM).

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

D.1.1 Nitrogen Oxides Emission Limitation [326 IAC 2-2]

In order to make the requirements of 326 IAC 2-2 (PSD Requirements) not applicable to the addition of natural gas fired burners to the existing Boilers 1 and 2, the following limits shall apply:

(a) The combined natural gas usage for Boiler 1 and Boiler 2 shall not exceed 395 million cubic feet (MMCF) per twelve (12) consecutive month period. Compliance with this limit shall be determined at the end of each month.

(b) NO_X emissions from the Boiler 1 and 2 natural gas fired burners shall not exceed 200 pounds per million cubic feet (lb/MMCF) of natural gas.

D.1.2 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from Boiler 1 and Boiler 2 shall not exceed 0.64 pound per million BTU heat input, based on the following equation:

$$Pt = \frac{(C)\,(a)\,(h)}{76.5\,(Q^{0.75})\,(N^{0.25})}$$

Where: C = 50 micrograms per cubic meter (μ/m^3)

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input.

N = Number of stacks in fuel burning operation.

a = 0.67

h = Stack height in feet.

For Boilers 1 and 2, Q = 555 MMBtu/hr, N = 2, and h = 200 feet.

D.1.3 Sulfur Dioxide Emission Limitations [326 IAC 2-2] [326 IAC 7-1.1-2]

(a) Pursuant to Construction Permit PC (79) 1680, issued June 6, 1988, 326 IAC 2-2 (Prevention of Significant Deterioration), and 326 IAC 7-1.1-2, the following conditions became effective upon start-up of Boiler 5:

(1) Sulfur dioxide emissions from Boilers 1 and 2 shall be limited to 5.43 pounds per million Btu's of heat input and to a total of 26.5 tons from both boilers on any calendar day.

(2) The 24-hour emission limit for sulfur dioxide shall be calculated by using the sulfur content of the coal as presently reported to the OAQ in accordance with 326 IAC 3-7-2 or 3-7-3. The daily coal usage will be calculated by the use of steam production data and an evaporation factor (pounds of steam per pounds of coal). The evaporation factor shall be 8.4 pounds of steam per pound of coal. Purdue University may request a permit modification to adjust this factor if performance data warrants a review.

(b) When the daily coal usage is 420 tons or less for these boilers, a daily sulfur dioxide emissions level need not be provided.

(c) The stack height on the existing boilers may be increased to 65 meters without obtaining approval from the IDEM, OAQ.

(d) The Permittee may at any time submit further modeling data in an effort to demonstrate that a higher 24-hour sulfur dioxide emission level from Boilers 1 and 2 will protect the sulfur dioxide air quality standards using procedures acceptable to the OAQ. The OAQ, after appropriate review, may adjust the 24-hour sulfur dioxide limit if the air quality analysis supports an adjusted level.

D.1.4 Temporary Alternative Opacity Limitations [326 IAC 5-1-3]

(a) Pursuant to 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), the following applies:

(1) When building a new fire in a boiler, or shutting down a boiler, opacity may exceed the 40% opacity limitation established by 326 IAC 5-1-2. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period. Opacity in excess of the applicable limit established in 326 IAC 5-1-2 shall not continue for more than two (2) six (6)-minute averaging periods in any twenty-four (24) hour period. [326 IAC 5-1-3(a)]

Operation of the electrostatic precipitator is not required during these times unless necessary to comply with these limits.

(2) When removing ashes from the fuel bed or furnace in a boiler or blowing tubes, opacity may exceed the applicable limit established in 326 IAC 5-1-2 and stated in Section C - Opacity. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period and opacity in excess of the applicable limit shall not continue for more than one (1) six (6)-minute averaging period in any sixty (60) minute period. The averaging periods in excess of the limit set in 326 IAC 5-1-2 shall not be permitted for more than three (3) six (6)-minute averaging periods in a twelve (12) hour period. [326 IAC 5-1-3(b)]

(b) If a facility cannot meet the opacity limitations of 326 IAC 5-1-3(a) or (b), the Permittee may submit a written request to IDEM, OAQ, for a temporary alternative opacity limitation in accordance with 326 IAC 5-1-3(d). The Permittee must demonstrate that the alternative limit is needed and justifiable.

D.1.5 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

(a) The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected sources, as designated by 40 CFR 63.7490(a), except when otherwise specified in 40 CFR 63 Subpart DDDDD. The Permittee must comply with these requirements on and after the effective date of 40 CFR 63, Subpart DDDDD.

(b) Since the applicable requirements associated with the compliance options for the affected source for the large solid fuel subcategory are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

D.1.6 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

(a) The affected sources are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD), as of the effective date of 40 CFR 63, Subpart DDDDD. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart DDDDD on and after three years after the effective date of 40 CFR 63, Subpart DDDDD.

(b) The following emissions units comprise the affected source for the large solid fuel subcategory: Boiler 1 and Boiler 2.

(c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected sources.

(d) Since the applicable requirements associated with the compliance options for the affected source for the large solid fuel subcategory are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition for the affected source for the large solid fuel subcategory.

D.1.7 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [40 CFR 279] [329 IAC 13]

(a) All coal burned, including coal treated with any additive, shall meet ASTM specifications for classification as coal (ASTM D388).

(b) The burning of hazardous waste, as defined by 40 CFR 261, is prohibited in these facilities without a Resource Conservation and Recovery Act (RCRA) permit. Any boiler tube chemical cleaning waste liquids evaporated in the boiler, and any binding agent or used oil combusted shall meet the toxicity characteristic requirements for non-hazardous waste. These requirements are not federally enforceable pursuant to the Title V permit.

(c) Any boiler tube chemical cleaning waste liquids evaporated in the boiler shall only contain the cleaning solution and no more than two full volume boiler rinses.

D.1.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

(a) A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for Boilers 1 and 2 and their emission control devices.

(b) The PMP for a multiclone shall include inspections of the internal components of the multiclone, conducted annually in accordance with the Section B - Preventive Maintenance Plan. Items to be checked include air infiltration, plugging of inlet spinner vanes, outlet tube erosion, deposits on the inside surfaces of the cyclone tubes, and plugging of the bottom of the cyclone tubes.

(c) The PMP for an electrostatic precipitator shall include the following inspections, performed according to the indicated schedules:

(1) Plate and electrode alignment, every major maintenance outage, but no less than every 2 years.

(2) Air infiltration, no less than every 2 years. The recommended method for this inspection is for audible checks around ash hoppers/hatches, duct expansion joints, and areas of corrosion.

(3) ESP TR set components, performed at least once per calendar year. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

At a minimum, the following inspections shall be performed:

(A) Internal inspection of shell for corrosion (including but not limited to doors, hatches, insulator housings, and roof area).

(B) Effectiveness of rapping (including but not limited to buildup of dust on discharge electrodes and plates).

(C) Gas distribution (including but not limited to buildup of dust on distribution plates and turning vanes).

(D) Dust accumulation (including but not limited to buildup of dust on shell and support members that could result in grounds or promote advanced corrosion).

(E) Major misalignment of plates (including but not limited to a visual check of plate alignment).

(F) Rapper, vibrator and TR set control cabinets (including but not limited to motors and lubrication).

(G) Rapper assembly (including but not limited to loose bolts, ground wires, water in air lines, and solenoids).

(H) Vibrator and rapper seals (including but not limited to air in-leakage, wear, and deterioration).

(I) TR set controllers (including but not limited to low voltage trip point, over current trip point, and spark rate).

(J) Vibrator air pressure settings.

Compliance Determination Requirements

D.1.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

By December 31 of the second calendar year following the most recent stack test, or within 180 days after issuance of this permit, whichever is later, compliance with the PM limitation for Boilers 1 and 2 shall be determined by performance stack tests conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in

accordance with Section C- Performance Testing.

For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

D.1.10 Operation of Multiclone and Electrostatic Precipitator [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, the multiclone and electrostatic precipitator (ESP) shall be operated at all times that the boiler vented to that multiclone and ESP is in operation.

D.1.11 Continuous Emissions Monitoring [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5-1(2)(A) (Continuous Monitoring of Emissions), continuous emission monitoring systems for Boilers 1 and 2 shall be calibrated, maintained, and operated for measuring opacity, which meet all applicable performance specifications of 326 IAC 3-5-2.

(b) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(c) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5 or 326 IAC 10-4.

D.1.12 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2] [326 IAC 7-1.1-2]

(a) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed the equivalent of 5.43 pound per million BTU heat input, using a calendar month average.

(b) Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7, coal sampling and analysis data shall be collected as follows:

(1) Coal sampling shall be performed using the methods specified in 326 IAC 3-7-2(a), and sample preparation and analysis shall be performed as specified in 326 IAC 3-7-2(c), (d), and (e); or

(2) Pursuant to 326 IAC 3-7-2(b)(2) and 326 IAC 3-7-3, manual or other non-ASTM automatic sampling and analysis procedures may be used upon a demonstration, submitted to the department for approval, that such procedures provide sulfur dioxide emission estimates representative either of estimates based on coal sampling and analysis procedures specified in 326 IAC 3-7-2 or of continuous emissions monitoring; or

(3) The Permittee shall meet the minimum sampling requirements specified in 326 IAC 3-7-2(b)(3), and sample preparation and analysis shall be performed as specified in 326 IAC 3-7-2(c), (d), and (e).

(4) Pursuant to 326 IAC 3-7-5(a), the Permittee shall develop a standard operating procedure (SOP) to be followed for sampling, handling, analysis, quality control, quality assurance, and data reporting of the information collected pursuant to 326 IAC 3-7-2 through 326 IAC 3-7-4. In addition, any revision to the SOP shall be submitted to IDEM, OAQ.

(c) Upon written notification to IDEM by a facility owner or operator, continuous emission monitoring data collected and reported pursuant to 326 IAC 3-5 may be used as the means for determining compliance with the emission limitations in 326 IAC 7. Upon such notification, the other requirements of 326 IAC 7-2 shall not apply. [326 IAC 7-2-1(g)]

D.1.13 Cleaning Waste Characterization [326 IAC 2-1.1-5(a)(4)] [40 CFR 261]

The Permittee shall use appropriate methodology as identified in 40 CFR Part 261 to characterize all boiler chemical cleaning wastes that will be evaporated, to determine compliance with the Operation Standards condition in this D section. This condition is not federally enforceable pursuant to the Title V permit.

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

D.1.14 Monitoring: Multiclone [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The ability of each multiclone to control particulate emissions shall be monitored at least once per shift, when the unit is in operation, by measuring and recording the total static pressure drop across the multiclone. Pressure drop monitoring equipment shall be installed in accordance with Section C - Compliance Monitoring and Section C - Pressure Gauge and Other Instrument Specifications.

(b) Normal operating range will be determined and provided to IDEM within the first ninety (90) calendar days following installation of the pressure drop monitoring equipment.

(c) Reasonable response steps shall be taken in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records and Reports whenever the static pressure drop is outside of the normal operating range for the corresponding boiler steam load. A pressure drop reading that is outside normal range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan -Preparation, Implementation, Records and Reports, shall be considered a deviation from this permit.

D.1.15 Electrostatic Precipitator Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The ability of each ESP to control particulate emissions shall be monitored once per shift, when the unit is in operation, by measuring and recording the primary and secondary voltages and the currents of the transformer-rectifier (T-R) sets.

(b) When for any one reading, operation is outside one of the normal ranges shown below, or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A voltage or current reading outside the normal range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Boiler 1:

(1)	Primary voltage:	350 - 430 V
(2)	Secondary voltage:	36 - 45 kV
(3)	T-R set secondary current:	250 - 400 mA

Boiler 2:

(1)	Primary voltage:	260 - 330 V
(2)	Secondary voltage:	29 - 38 kV
(3)	T-R set secondary current:	370 - 420 mA

D.1.16 Opacity Readings [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) For Boiler 1:

(1) In the event of emissions exceeding twenty-five percent (25%) average opacity for three (3) consecutive six (6) minute averaging periods, appropriate response steps shall be taken in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back below twenty-five percent (25%). Examples of expected response steps include, but are not limited to, boiler loads being reduced, adjustment of flue gas conditioning rate, and ESP T-R sets being returned to service.

(2) Opacity readings in excess of twenty-five percent (25%) but not exceeding the opacity limit for the unit are not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) For Boiler 2:

(1) In the event of emissions exceeding twenty percent (20)% average opacity for three (3) consecutive six (6) minute averaging periods, appropriate response steps shall be taken in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back below twenty percent (20%). Examples of expected response steps include, but are not limited to, boiler loads being reduced, adjustment of flue gas conditioning rate, and ESP T-R sets being returned to service.

(2) Opacity readings in excess of twenty percent (20%) but not exceeding the opacity limit for the unit are not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(c) Periods of elevated opacity that are subject to a Temporary Alternative Opacity Limitation (TAOL) when building a new fire in a boiler, shutting down a boiler, removing ashes from the fuel bed or furnace in a boiler, or blowing tubes, need not be included in the averaging periods for (a) and (b) of this condition.

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

D.1.17 Record Keeping Requirements

(a) To document compliance with Condition D.1.1, the Permittee shall maintain records including the following:

(1) Monthly records of total natural gas usage for Boilers 1 and 2.

(2) Documentation of NO_X emission rate for the Boiler 1 and 2 gas burners.

(b) To document compliance with Section C- Opacity, Section C - Maintenance of Continuous Opacity Monitoring Equipment, and the particulate matter and opacity Conditions D.1.2, D.1.4, D.1.9, D.1.10, D.1.11, D.1.14, D.1.15, and D.1.16, the Permittee shall maintain records in accordance with (1) through (4) below. Records shall be complete and sufficient to establish compliance with the limits in Section C- Opacity and Conditions D.1.2 and D.1.4.

(1) Data and results from the most recent stack test.

(2) All continuous opacity monitoring data, pursuant to 326 IAC 3-5-6.

(3) The results of all visible emission (VE) notations and Method 9 visible emission readings taken during any periods of COM downtime.

(4) All multiclone and ESP parametric monitoring readings.

(c) To document compliance with SO_2 Conditions D.1.3 and D.1.12, the Permittee shall maintain records in accordance with (1) and (2) below. Records shall be complete and sufficient to establish compliance with the SO_2 limits as required in Conditions D.1.3.

(1) All fuel sampling and analysis data, pursuant to 326 IAC 7-2.

(2) Daily fuel usage for each of Boilers 1 and 2.

(d) Pursuant to 326 IAC 3-7-5(b), the Permittee shall maintain records sufficient to verify compliance with the coal sampling and analysis procedures specified in 326 IAC 3-7-2 through 326 IAC 3-7-3.

(e) To document compliance with Condition D.1.8, the Permittee shall maintain records of the results of all boiler and emission control equipment inspections, including any additional inspections prescribed by the Preventive Maintenance Plan.

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

D.1.18 Reporting Requirements

(a) A quarterly report of opacity exceedances shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A quarterly report of the calendar month average coal sulfur content, coal heat content, and sulfur dioxide emission rate in pounds per million Btus and the total monthly coal consumption shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. [326 IAC 7-2-1(c)(2]

The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) A quarterly report of the natural gas usage for Boilers 1 and 2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Pursuant to 326 IAC 3-5-7(5), reporting of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(1) date of downtime;

(2) time of commencement;

(3) duration of each downtime;

(4) reasons for each downtime; and

(5) nature of system repairs and adjustments.

The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.1.19 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements [40 CFR 63, Subpart DDDDD]

(a) Pursuant to 40 CFR 63.7545, the Permittee shall submit the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4), and (f)(6), and 63.9(b) through (h) that apply to the affected sources for the large solid fuel subcategory and chosen compliance methods by the dates specified. These notifications include, but are not limited to, the following:

(1) An Initial Notification containing the information specified in 40 CFR 63.9(b)(2) not later than 120 days after the effective date of 40 CFR 63, Subpart DDDDD as required by 40 CFR 63.7545(b).

(2) If required to conduct a performance test, a notification of intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required by 40 CFR 63.7(b)(1) and 40 CFR 63.7545(d).

(3) If required to conduct an initial compliance demonstration as specified in 40 CFR 63.7530(a), a Notification of Compliance Status containing the information required by 40 CFR 63.9(h)(2)(ii) in accordance with 40 CFR 62.7545(e).

(A) For each initial compliance demonstration, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of the performance test and/or other initial compliance demonstrations according to 40 CFR 63.10(d)(2).

(B) The Notification of Compliance Status shall contain the items in 40 CFR 63.7545(e)(1) through (9), as applicable.

(4) If required to use a continuous monitoring system (CMS), notification of a performance evaluation, if required, as specified in 40 CFR 63.9(g), by the date of submission of the notification of intent to conduct a performance test.

(b) The notifications required by paragraph (a) shall be submitted to:

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

The notifications require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.1.20 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12] [326 IAC 2-7-5]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit for the affected source for the large solid fuel subcategory.

(a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart DDDDD, a description of the affected sources and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.

(b) The significant permit modification application shall be submitted no later than nine months prior to the compliance date as specified in 40 CFR 63.7495(b).

(c) The significant permit modification application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(c) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation completed in 1991, with a design capacity of 279 MMBtu/hr, with a baghouse for particulate matter control and limestone injection for sulfur dioxide control, combusting natural gas for ignition, exhausting to stack WADE 05. Boiler 5 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

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

D.2.1 Construction Permit Limitations [326 IAC 2] [326 IAC 7-1.1-2(a)] [326 IAC 6-2-1(g)]

Pursuant to Construction Permit PC (79) 1680, issued June 6, 1988, and 326 IAC 2-2 (Prevention of Significant Deterioration), the following requirements apply to Boiler 5:

(a) Sulfur dioxide emissions shall not exceed:

(1) 0.9 pounds per million Btu's of heat input based on a 30 day rolling weighted average basis, and

(2) 1.1 pounds per million Btu's of heat input based on a block 24 hour average basis.

(b) Particulate matter emissions shall not exceed 0.05 pounds per million Btu's of heat input.

(c) Carbon monoxide emissions shall not exceed 0.27 pounds per million Btu's of heat input.

(d) The rate of heat input into the boiler shall not exceed 279 million Btu's per hour.

(e) The Permittee shall, prior to any change in the operation of Boiler 5 that may result in an increase in emissions, specified in 326 IAC 2-1.1, submit a Part 70 Source Modification application to the IDEM, OAQ. No change shall be made until approval is obtained. Further, no change in emission control equipment is to be made without prior approval.

D.2.2 New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart Db]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) and Construction Permit PC (79) 1680, issued on June 6, 1988, emissions from Boiler 5 shall not exceed the following:

(a) For sulfur dioxide, pursuant to 40 CFR 60.42b, emissions shall not exceed 1.2 pounds per million Btu's (lb/MMBtu) of heat energy input and ten percent (10%) of the potential combustion concentration (ninety percent (90%) removal) when Boiler 5 is firing coal.

No owner or operator of an affected facility that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 10 percent (0.10) of the potential (90 percent reduction) and that contain sulfur dioxide in excess of the emission limit determined according to the following formula:

Es = (Ka Ha+Kb Hb)/(Ha+Hb) where:

Es is the sulfur dioxide emission limit, in ng/J or lb/million Btu heat input,

Ka is 520 ng/J (or 1.2 lb/million Btu),

Kb is 340 ng/J (or 0.80 lb/million Btu),

Ha is the heat input from the combustion of coal, in J (million Btu),

Hb is the heat input from the combustion of oil, in J (million Btu). Only the heat input supplied to Boiler 5 from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to Boiler 5 from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat input to the affected facility from exhaust gases from another source, such as gas turbines, internal combustion engines, kilns, etc.

(b) For particulate matter:

(1) Pursuant to 40 CFR 60.43b, no owner or operator of an affected facility which combusts coal or combusts mixtures of coal with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of 0.051 lb/million Btu heat input,

(A) If the affected facility combusts only coal, or

(B) If the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(C) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal, wood, or municipal-type solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum design heat input capacity. [40 CFR 60.43b(e)]

(2) No owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43b(f)]

(c) For nitrogen oxides, pursuant to 40 CFR 60.44b:

(1) No owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO_2) in excess of the following emission limits:

From fluidized bed combustion, not more than 0.60 lb/million Btu (lb/MMBtu) heat input.

(2) Except as provided under paragraphs (k) and (l) of 40 CFR 60.44b, no owner or operator of an affected facility that simultaneously combusts mixtures of coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of a limit determined by the use of the following formula:

$E_n=[(EL_{go} H_{go})+(EL_{ro}H_{ro})+(EL_c H_c)]/ (H_{go}+H_{ro}+H_c)$ where:

E_n is the nitrogen oxides emission limit (expressed as NO_2), ng/J (lb/million Btu)

EL_{go} is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu)

H_{go} is the heat input from combustion of natural gas or distillate oil,

EL_{ro} is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil,

H_{ro} is the heat input from combustion of residual oil,

EL_c is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

H_c is the heat input from combustion of coal.

D.2.3 Temporary Alternative Opacity Limitations [326 IAC 5-1-3]

(a) Pursuant to 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), when building a new fire in a boiler, or shutting down a boiler, opacity may exceed the 40% opacity limitation established by 326 IAC 5-1-2. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period. Opacity in excess of the applicable limit established in 326 IAC 5-1-2 shall not continue for more than two (2) six (6)-minute averaging periods in any twenty-four (24) hour period. [326 IAC 5-1-3(a)]

(b) If a facility cannot meet the opacity limitations of 326 IAC 5-1-3(a), the Permittee may submit a written request to IDEM, OAQ, for a temporary alternative opacity limitation in accordance with 326 IAC 5-1-3(d). The Permittee must demonstrate that the alternative limit is needed and justifiable.

D.2.4 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

(a) The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source, as designated by 40 CFR 63.7490(a), except when otherwise specified in 40 CFR 63 Subpart DDDDD. The Permittee must comply with these requirements on and after the effective date of 40 CFR 63, Subpart DDDDD.

(b) Since the applicable requirements associated with the compliance options for the affected source for the large solid fuel subcategory are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

D.2.5 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

(a) The affected source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD), as of the effective date of 40 CFR 63, Subpart DDDDD. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart DDDDD on and after three years after the effective date of 40 CFR 63, Subpart DDDDD.

(b) The following emissions units comprise the affected source for the large solid fuel subcategory: Boiler 5.

(c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected source.

(d) Since the applicable requirements associated with the compliance options for the affected source for the large solid fuel subcategory are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition for the affected source for the large solid fuel subcategory.

D.2.6 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [40 CFR 279] [329 IAC 13]

(a) All coal burned, including coal treated with any additive, shall meet ASTM specifications for classification as coal (ASTM D388).

(b) The burning of hazardous waste, as defined by 40 CFR 261, is prohibited in this facility without a Resource Conservation and Recovery Act (RCRA) permit. Any boiler tube chemical cleaning waste liquids evaporated in the boiler, and any binding agent or used oil combusted shall meet the toxicity characteristic requirements for non-hazardous waste. These requirements are not federally enforceable pursuant to the Title V permit.

(c) Any boiler tube chemical cleaning waste liquids evaporated in the boiler shall only contain the cleaning solution and no more than two full volume boiler rinses.

D.2.7 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to Boiler 5 except when otherwise specified in 40 CFR Part 60, Subpart Db.

D.2.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its emission control devices.

Compliance Determination Requirements

D.2.9 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

By December 31 of the second calendar year following the most recent stack test, or within 180 days after issuance of this permit, whichever is later, compliance with the Boiler 5 PM limitation in Conditions D.2.1(b) and D.2.2(b)(1) and the CO limitation in Condition D.2.1(c) shall be determined by performance stack tests conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

D.2.10 Construction Permit Compliance Determination Requirements [326 IAC 2]

Pursuant to Construction Permit PC (79) 1680, issued June 6, 1988:

(a) Compliance with the sulfur dioxide emission limitations shall be met by using a circulating fluidized bed boiler with alkali injection.

(b) Compliance with the sulfur dioxide emission limits in Conditions D.2.1(a)(1) and D.2.2(a) shall be determined on a 30-day rolling weighted average emission basis. The emission rates shall be determined by using the SO_2 continuous monitoring data to calculate daily emission rates pursuant to 40 CFR 60.45b. The percent removal shall be determined by using fuel sampling and analysis to determine the incoming SO_2 emissions and using the SO_2 continuous monitoring data to determine the outlet SO_2 emissions, pursuant to 40 CFR 60.45b.

(c) Compliance with the block 24 hour average sulfur dioxide emission limitation in Condition D.2.1(a)(2) shall be determined by using the continuous sulfur dioxide emission monitoring data. Excess 24 hour average emission rates due to startup and shutdown may be excluded from compliance determinations to the extent that they represent operation in a manner consistent with good air pollution control practice for minimizing emissions and are unavoidable.

(d) Compliance with the particulate matter emissions limit of 0.05 pounds per million Btu's of heat input shall be met by using a baghouse.

(e) Compliance with the heat input limit shall be determined on a 30-day rolling weighted average basis.

D.2.11 NSPS Compliance Provisions [326 IAC 12] [40 CFR 60, Subpart Db]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units):

(a) For sulfur dioxide:

(1) Compliance with the sulfur dioxide emission limits, fuel oil sulfur limits, and/or percent reduction requirements under 40 CFR 60.42b are determined on a 30-day rolling average basis. [40 CFR 60.42b(e)]

(2) The sulfur dioxide emission limits and percent reduction requirements under 40 CFR 60.42b apply at all times, including periods of startup, shutdown, and malfunction. [40 CFR 60.42b(g)] [40 CFR 60.45b(a)]

(3) Compliance with the sulfur dioxide emission limits and percent reduction requirements under 40 CFR 60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for 30 successive steam generating unit operating days, except as provided under 60.42b(d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for sulfur dioxide are calculated to show compliance with the standard. [40 CFR 60.45b(g)]

(4) Except as provided under paragraph (i) of 40 CFR 60.45b, the owner or operator of an affected facility shall use all valid sulfur dioxide emissions data in calculating the percent sulfur dioxide emission rate (% P_s) and the hourly sulfur dioxide emission rate (E_{ho}) under paragraph (c) of 40 CFR 60.45b whether or not the minimum emissions data requirements under 40 CFR 60.46b are achieved. All valid emissions data, including valid sulfur dioxides emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating % P_s and E_{ho} pursuant to paragraph (c) of 40 CFR 60.45b. [40 CFR 60.45b(h)]

(b) For particulate matter:

The particulate matter emission standards and opacity limits under 40 CFR 60.43b apply at all times except during periods of startup, shutdown, or malfunction. [40 CFR 60.46b(a)]

(c) For nitrogen oxide:

(1) The nitrogen oxides emission standards under 40 CFR 60.44b apply at all times including periods of startup, shutdown, or malfunction. [40 CFR 60.44b(h)] [40 CFR 60.46b(a)]

(2) Compliance with the nitrogen oxide emission limits under 40 CFR 60.44b is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]

(3) The owner or operator of an affected facility which combusts coal shall determine compliance with the nitrogen oxides emission standards under 40 CFR 60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days. [40 CFR 60.46b(e)(2)]

D.2.12 Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 12] [40 CFR 60, Subpart Db] [326 IAC 2-2]

(a) Pursuant to Construction Permit PC (79) 1680, issued June 6, 1988; 326 IAC 3-5 (Continuous Monitoring of Emissions); 326 IAC 2-2 (Prevention of Significant Deterioration); and 40 CFR 60 Subpart Db, continuous emission monitoring systems (CEMS) for Boiler 5 shall be calibrated, maintained, and operated for measuring opacity, SO_2, NO_X and either CO_2 or O_2, which meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60.47b and 60.48b.

(b) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(c) For sulfur dioxides:

(1) The use of limestone injection for SO_2 control precludes the use of a CEM system to measure the pre-control SO_2 emission rates. The pre-control SO_2 emission rates and percent reduction shall be determined using daily as-fired fuel sampling and analysis. Pursuant to 40 CFR 60.47b(b), the owner or operator shall determine the average sulfur dioxide emissions and percent reduction by:

(A) Collecting coal or oil samples in an as-fired condition at the inlet to the steam generating unit and analyzing them for sulfur and heat content according to Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average sulfur dioxide input rate, or

(B) Measuring sulfur dioxide according to Method 6B at the inlet or outlet to the sulfur dioxide control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable sulfur dioxide and carbon dioxide measurement train operated at the candidate location and a second similar train operated according to the procedures in section 3.2 and the applicable procedures in section 7 of Performance Specification 2. Method 6B, Method 6A, or a combination of Methods 6 and 3 or 3B or Methods 6C and 3A are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(C) A daily sulfur dioxide emission rate, E_D, shall be determined using the procedure described in Method 6A, section 7.6.2 (Equation 6A-8) and stated in lb/million Btu heat input.

(D) The mean 30-day emission rate is calculated using the daily measured values in lb/million Btu for 30 successive steam generating unit operating days using equation 19-20 of Method 19.

(E) Pursuant to 326 IAC 3-7-5(a), the Permittee shall develop a standard operating procedure (SOP) to be followed for sampling, handling, analysis, quality control, quality assurance, and data reporting of the information collected pursuant to 326 IAC 3-7-2 through 326 IAC 3-7-4. In addition, any revision to the SOP shall be submitted to IDEM, OAQ.

(2) The owner or operator of an affected facility shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator or the reference methods and procedures as described in paragraph (b) of 40 CFR 60.47b. [40 CFR 60.47b(c)]

(3) The 1-hour average sulfur dioxide emission rates measured by the CEMS required by paragraph (a) of 40 CFR 60.47b and required under 40 CFR 60.13(h) is expressed in ng/J or lb/million Btu heat input and is used to calculate the average emission rates under 40 CFR 60.42b. Each 1-hour average sulfur dioxide emission rate must be based on more than 30 minutes of steam generating unit operation and include at least 2 data points with each representing a 15-minute period. Hourly sulfur dioxide emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day. [40 CFR 60.47b(d]

(4) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the CEMS. [40 CFR 60.47b(e)]

(5) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of 40 CFR 60 Appendix B. [40 CFR 60.47b(e)(1)]

(6) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of 40 CFR 60 Appendix F. [40 CFR 60.47b(e)(2)]

(7) For affected facilities combusting coal, alone or in combination with other fuels, the span value of the sulfur dioxide CEMS at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted. [40 CFR 60.47b(e)(3)]

(d) For nitrogen oxides:

(1) The continuous monitoring systems required under paragraph (b) of 40 CFR 60.48b shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]

(2) The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor required by paragraph (b) of 40 CFR 60.48b and required under 40 CFR 60.13(h) shall be expressed in lb/million Btu heat input

and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(b). At least two (2) data points must be used to calculate each 1-hour average. [40 CFR 60.48b(d)]

(3) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. [40 CFR 60.48b(e)]

(4) For affected facilities combusting coal, the span value for nitrogen oxides is 1,000 PPM. [40 CFR 60.48b(e)(2)]

(5) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days. [40 CFR 60.48b(f)]

(e) For opacity:

(1) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. [40 CFR 60.48b(e)]

(2) For affected facilities combusting coal, the span value for a continuous monitoring system for measuring opacity shall be between 60 and 80 percent. [40 CFR 60.48b(e)(1)

(f) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5, 326 IAC 10-4, 40 CFR 60, or 40 CFR 75.

D.2.13 Operation of Baghouse [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, the baghouse shall be operated at all times that Boiler 5 is in operation.

D.2.14 Cleaning Waste Characterization [326 IAC 2-1.1-5(a)(4)] [40 CFR 261]

The Permittee shall use appropriate methodology as identified in 40 CFR Part 261 to characterize all boiler chemical cleaning wastes that will be evaporated, to determine compliance with the Operation Standards condition in this D section. This condition is not federally enforceable pursuant to the Title V permit.

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

D.2.15 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall record the total static pressure drop across the Boiler 5 baghouse at least once per shift when the boiler is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 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- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

D.2.16 Baghouse Inspections [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) An inspection shall be performed at least once per calendar year of all bags controlling particulate emissions from Boiler 5. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.2.17 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that bag failure has been observed, the affected baghouse compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.2.18 SO_2 Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)]

Whenever the SO_2 continuous emission monitoring system is malfunctioning or down for repairs or adjustments, the Permittee shall monitor and record boiler load, fuel sulfur content, and limestone injection rate, to demonstrate that the operation of the limestone injection system continues in a manner typical for the boiler load and sulfur content of the coal fired. Limestone injection parametric monitoring readings shall be recorded at least once per hour until the primary CEMS or a backup CEMS is brought online.

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

D.2.19 Record Keeping Requirements

(a) To document compliance with Section C - Maintenance of Continuous Opacity Monitoring Equipment, and the particulate matter and opacity requirements in Conditions D.2.1, D.2.2, D.2.3, D.2.10, D.2.12, D.2.13, D.2.15, D.2.16, and D.2.17, the Permittee shall maintain records in accordance with (1) through (4) below. Records shall be complete and sufficient to establish compliance with the limits in Conditions D.2.1, D.2.2, and D.2.3.

(1) Data and results from the most recent stack test.

(2) All continuous opacity monitoring data, pursuant to 326 IAC 3-5-6 and 40 CFR 60.42(a)(2).

(3) The results of all visible emission (VE) notations and Method 9 visible emission readings taken during any periods of COM downtime.

(4) All baghouse parametric monitoring readings.

(b) To document compliance with the SO_2 requirements in Conditions D.2.1, D.2.2, D.2.10, D.2.11, D.2.12, and D.2.18, the Permittee shall maintain records in accordance with (1) through (4) below. Records shall be complete and sufficient to establish compliance with the applicable SO_2 limit(s) as required in Conditions D.2.1, D.2.2, D.2.10, D.2.11, and D.2.12. The Permittee shall maintain records in accordance with (3) and (4) below during SO_2 CEM system downtime.

(1) All SO_2 continuous emissions monitoring data, pursuant to 326 IAC 3-5-6, 326 IAC 7-2-1(g), and 40 CFR 60.45.

(2) All startup periods and shutdown periods.

(3) All boiler load, fuel sampling and analysis, and limestone injection rate data collected for SO_2 CEMS downtime, in accordance with Conditions D.2.12 and D.2.18.

(4) Actual fuel usage during each SO_2 CEM system downtime.

(c) To document compliance with the NO_X requirements in Conditions D.2.2 and D.2.12, the Permittee shall maintain records of all NO_X and CO_2 or O_2 continuous emissions monitoring data, pursuant to 326 IAC 3-5-6 and 40 CFR 60.45. Records shall be complete and sufficient to establish compliance with the NO_X limit as required in Conditions D.2.2 and D.2.12.

(d) To document compliance with the heat input limit in Condition D.2.1(d), the Permittee shall maintain records of Boiler 5 hourly heat input readings derived from CEMS data, or the amount of coal and the heat content of the coal fired in Boiler 5.

(e) To document compliance with Conditions D.2.8 and D.2.16, the Permittee shall maintain records of the results of all boiler and emission control equipment inspections, including any additional inspections prescribed by the Preventive Maintenance Plan.

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

D.2.20 Reporting Requirements

(a) A quarterly report of opacity exceedances and a quarterly summary of the information to document compliance with Conditions D.2.1, D.2.3, D.2.10, D.2.11, and D.2.12 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

Pursuant to Condition D.2.10(c) regarding the block 24 hour average SO_2 emission limitation, the quarterly report for SO_2 shall explain whether any excess 24 hour average emission rates due to startup and shutdown were excluded from the compliance determination.

(b) Pursuant to 40 CFR 60.49b, excess emissions and monitoring system performance (MSP) reports shall be submitted to the administrator semi-annually for each six month period in the calendar year. All semiannual reports shall be postmarked by the 30th day

following the end of each six-month period. Each excess emission and MSP report shall include the information required in 40 CFR 60.7(c). The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

If the Permittee elects to combine the excess emission and MSP reports with the quarterly reports required under part (a) of this condition, the reports submitted pursuant to (a) must also include all information required in 40 CFR 60.7(c), and each report must state precisely which state and federal requirements are satisfied by the report.

(c) All reports submitted pursuant to this condition shall be submitted to:

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

(d) Pursuant to 326 IAC 3-5-7(5), reporting of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(1) date of downtime;

(2) time of commencement;

(3) duration of each downtime;

(4) reasons for each downtime; and

(5) nature of system repairs and adjustments.

The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.2.21 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements
[40 CFR 63, Subpart DDDDD]

(a) Pursuant to 40 CFR 63.7545, the Permittee shall submit the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4), and (f)(6), and 63.9(b) through (h) that apply to the affected source for the large solid fuel subcategory and chosen compliance methods by the dates specified. These notifications include, but are not limited to, the following:

(1) An Initial Notification containing the information specified in 40 CFR 63.9(b)(2) not later than 120 days after the effective date of 40 CFR 63, Subpart DDDDD as required by 40 CFR 63.7545(b).

(2) If required to conduct a performance test, a notification of intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required by 40 CFR 63.7(b)(1) and 40 CFR 63.7545(d).

(3) If required to conduct an initial compliance demonstration as specified in 40 CFR 63.7530(a), a Notification of Compliance Status containing the information required by 40 CFR 63.9(h)(2)(ii) in accordance with 40 CFR 62.7545(e).

(A) For each initial compliance demonstration, the Permittee shall submit the Notification of Compliance Status, including all performance test

results and fuel analyses, before the close of business on the 60th day following the completion of the performance test and/or other initial compliance demonstrations according to 40 CFR 63.10(d)(2).

(B) The Notification of Compliance Status shall contain the items in 40 CFR 63.7545(e)(1) through (9), as applicable.

(4) If required to use a continuous monitoring system (CMS), notification of a performance evaluation, if required, as specified in 40 CFR 63.9(g), by the date of submission of the notification of intent to conduct a performance test.

(b) The notifications required by paragraph (a) shall be submitted to:

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

The notifications require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.2.22 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12] [326 IAC 2-7-5]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit for the affected source for the large solid fuel subcategory.

(a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart DDDDD, a description of the affected sources and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.

(b) The significant permit modification application shall be submitted no later than nine months prior to the compliance date as specified in 40 CFR 63.7495(b).

(c) The significant permit modification application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(d) One (1) natural gas and distillate fuel oil fired boiler, identified as Boiler 3, with installation started in 1973 or 1974 and completed in 1974, with a maximum capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

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

D.3.1 New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart D]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971), emissions from Boiler No. 3 shall not exceed the following:

(a) 0.10 pound PM per million Btu (MMBtu) heat input derived from fossil fuel. [40 CFR 60.42(a)(1)]

(b) For opacity:

(1) Twenty percent (20%) opacity except for one six-minute period per hour of not more than twenty-seven percent (27%) opacity. [40 CFR 60.42(a)(2)]

(2) Pursuant to 40 CFR 60.11(c), the NSPS opacity standard of 40 CFR 60.42(a)(2) shall apply at all times except during periods of startup, shutdown, or malfunction. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions [40 CFR 60.11(d)].

(c) For SO_2:

(1) 0.80 pound SO_2 per million Btu (MMBtu) heat input derived from liquid fossil fuel. [40 CFR 60.43(a)(1)]

(2) When combusting different fossil fuels simultaneously, the applicable SO_2 limit shall be determined using the formula in 40 CFR 60.43(b).

(3) Compliance shall be based on the total heat input form all fossil fuels burned, including gaseous fuels. [40 CFR 60.43(c)]

(d) For NO_X:

(1) 0.20 pound NO_X per million Btu (MMBtu) heat input derived from gaseous fossil fuel. [40 CFR 60.44(a)(1)]

(2) 0.30 pound NO_X per million Btu (MMBtu) heat input derived from liquid fossil fuel. [40 CFR 60.44(a)(2)]

D.3.2 Temporary Alternative Opacity Limitations [326 IAC 5-1-3]

(a) Pursuant to 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), when building a new fire in a boiler, or shutting down a boiler, opacity may exceed the 40% opacity limitation established by 326 IAC 5-1-2. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period. Opacity in excess of the applicable limit established in 326 IAC 5-1-2 shall not continue for more than two (2) six (6)-minute averaging periods in any twenty-four (24) hour period. [326 IAC 5-1-3(a)]

(b) If a facility cannot meet the opacity limitations of 326 IAC 5-1-3(a), the Permittee may submit a written request to IDEM, OAQ, for a temporary alternative opacity limitation in accordance with 326 IAC 5-1-3(d). The Permittee must demonstrate that the alternative limit is needed and justifiable.

D.3.3 Sulfur Dioxide (SO_2) [326 IAC 7-1.1]

Pursuant to 326 IAC 7-1.1-2(a)(3), sulfur dioxide emissions from Boiler 3 shall not exceed five-tenths (0.5) pound per million Btu's when combusting only distillate oil or a combination of only distillate oil and natural gas.

D.3.4 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source, as designated by 40 CFR 63.7506(b). The Permittee must comply with these requirements on and after the effective date of 40 CFR 63, Subpart DDDDD.

D.3.5 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

(a) The affected source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD), as of the effective date of 40 CFR 63, Subpart DDDDD. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart DDDDD on and after three years after the effective date of 40 CFR 63, Subpart DDDDD.

(b) The following emissions units comprise the affected source for the large liquid fuel subcategory: Boiler 3.

(c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected sources.

D.3.6 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [40 CFR 279] [329 IAC 13]

(a) The burning of hazardous waste, as defined by 40 CFR 261, is prohibited in this facility without a Resource Conservation and Recovery Act (RCRA) permit. Any boiler tube chemical cleaning waste liquids evaporated in the boiler, and any binding agent or used oil combusted shall meet the toxicity characteristic requirements for non-hazardous waste. These requirements are not federally enforceable pursuant to the Title V permit.

(b) Any boiler tube chemical cleaning waste liquids evaporated in the boiler shall only contain the cleaning solution and no more than two full volume boiler rinses.

D.3.7 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to Boiler 3 except when otherwise specified in 40 CFR Part 60, Subpart D.

D.3.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any emission control devices.

Compliance Determination Requirements

D.3.9 Testing Requirements [326 IAC 2-7-6(1), (3), (6)] [326 IAC 2-1.1-11] [40 CFR 60.8] [40 CFR 60.46]

Within 180 days following issuance of this Part 70 permit, the Permittee shall conduct initial performance tests for Boiler 3 for NSPS Subpart D while firing fuel oil. Performance tests shall be conducted for particulate matter (PM), SO_2, and NO_X, and data reduced in accordance with the test methods and procedures contained in 40 CFR 60.8 and 40 CFR 60.46 unless the Administrator approves an alternative in accordance with 40 CFR 60.8(b).

D.3.10 Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 12] [40 CFR 60, Subpart D] [326 IAC 2-2]

(a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 40 CFR 60.45, continuous emission monitoring systems for Boiler 3 shall be calibrated, maintained, and operated for measuring opacity, NO_X and either O_2 or CO_2, which meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60.45, except as provided in paragraph (b) of 40 CFR 60.45.

(1) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under 40 CFR 60.8. [40 CFR 60.13(b)]

(2) Pursuant to 40 CFR 60.13(e), except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under paragraph (d) of 40 CFR 60.13, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(A) All continuous monitoring systems referenced by paragraph (c) of this section for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(B) All continuous monitoring systems referenced by paragraph (c) of this section for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(3) Excess NO_X emissions for affected facilities using a continuous monitoring system for measuring nitrogen oxides are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of exceed the applicable standards under 40 CFR 60.44. [40 CFR 60.45(g)(3)]

(4) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(b) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of 40 CFR 60 including, but not limited to, alternative monitoring requirements when the affected facility is infrequently operated. [40 CFR 60.13(i)]

"Administrator" means the Administrator of the Environmental Protection Agency or his authorized representative. [40 CFR 60.2]

(c) If the Administrator approves alternative monitoring requirements in lieu of the COM requirements for Boiler 3, then IDEM, OAQ, may require additional PM stack testing and Method 9 opacity readings to demonstrate compliance with 326 IAC 5-1 and 326 IAC 6-2, pursuant to 326 IAC 3-5-1(c)(2)(A)(ii).

(d) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5, 326 IAC 10-4, 40 CFR 60, or 40 CFR 75.

D.3.11 Sulfur Dioxide Emissions and Sulfur Content [40 CFR 60.45] [326 IAC 12] [326 IAC 3] [326 IAC 7-2] [326 IAC 7-1.1-2]

(a) Pursuant to 40 CFR 60.45(b)(2), the Permittee shall monitor sulfur dioxide emissions by fuel sampling and analysis.

(b) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed the equivalents of the limits specified in Condition D.3.1(c) and D.3.3, using a calendar month average.

(c) Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7-4, fuel sampling and analysis data shall be collected as follows:

(1) The Permittee may rely upon vendor analysis of fuel delivered, if accompanied by a vendor certification [326 IAC 3-7-4(b)]; or,

(2) The Permittee shall perform sampling and analysis of fuel oil samples in accordance with 326 IAC 3-7-4(a).

(A) Oil samples shall be collected from the tanker truck load prior to transferring fuel to the storage tank; or

(B) Oil samples shall be collected from the storage tank immediately after each addition of fuel to the tank.

(d) Upon written notification to IDEM by a facility owner or operator, continuous emission monitoring data collected and reported pursuant to 326 IAC 3-5 may be used as the means for determining compliance with the emission limitations in 326 IAC 7. Upon such notification, the other requirements of 326 IAC 7-2 shall not apply. [326 IAC 7-2-1(g)]

D.3.12 Cleaning Waste Characterization [326 IAC 2-1.1-5(a)(4)] [40 CFR 261]

The Permittee shall use appropriate methodology as identified in 40 CFR Part 261 to characterize all boiler chemical cleaning wastes that will be evaporated, to determine compliance with the Operation Standards condition in this D section. This condition is not federally enforceable pursuant to the Title V permit.

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

D.3.13 Record Keeping Requirements

(a) To document compliance Section C - Maintenance of Continuous Opacity Monitoring Equipment, and with the particulate matter and opacity requirements in Conditions D.3.1, D.3.2, D.3.9, and D.3.10, the Permittee shall maintain records in accordance with (1) through (4) below. Records and shall be complete and sufficient to establish compliance with the PM and opacity limits in Conditions D.3.1 and D.3.2.

(1) Data and results from the most recent stack test;

(2) All continuous opacity monitoring data, pursuant to 326 IAC 3-5-6 and 40 CFR 60.45.

(3) The results of all visible emission (VE) notations and Method 9 visible emission readings taken during any periods of COM downtime.

(4) Hours of operation on fuel oil.

(b) To document compliance with the SO_2 requirements in Conditions D.3.1, D.3.3, D.3.9, D.3.10, and D.3.11, the Permittee shall maintain records in accordance with (1) and (2) below. Records and shall be complete and sufficient to establish compliance with the SO_2 limits in Conditions D.3.1 and D.3.3.

(1) All fuel sampling and analysis data, pursuant to 326 IAC 7-2 and 40 CFR 60.45.

(2) Actual fuel usage since last compliance determination period.

(c) To document compliance with Condition D.3.8 the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

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

D.3.14 Reporting Requirements

(a) A quarterly report of opacity exceedances shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) To document compliance with Condition D.3.1 and pursuant to 40 CFR 60.45(g), excess emissions and monitoring system performance (MSP) reports shall be submitted to the administrator semi-annually for each six month period in the calendar year. All semiannual reports shall be postmarked by the 30th day following the end of each six-month period. Each excess emission and MSP report shall include the information required in 40 CFR 60.7(c). These reports shall be submitted to:

U.S. Environmental Protection Agency
Director, Air and Radiation Division
77 West Jackson Boulevard
Chicago, IL 60604-3590

and

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

The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee shall furnish the Administrator a written report of the results of the initial performance tests for NSPS Subpart D and any subsequent performance tests in accordance with 40 CFR 60.8.

The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Upon request of the IDEM, OAQ, reports of the calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btus shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit. [326 IAC 7-2-1(c)(3]

The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Pursuant to 326 IAC 3-5-7(5), reporting of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(1) date of downtime;

(2) time of commencement;

(3) duration of each downtime;

(4) reasons for each downtime; and

(5) nature of system repairs and adjustments.

The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.3.15 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements
[40 CFR 63, Subpart DDDDD]

(a) Pursuant to 40 CFR 63.7545(a) and 40 CFR 63.7506(b), the Permittee shall submit an Initial Notification containing the information specified in 40 CFR 63.9(b)(2) not later than 120 days after the effective date of 40 CFR 63, Subpart DDDDD as required by 40 CFR 63.7545(b).

(b) The notification required by paragraph (a) shall be submitted to:

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

The notification requires the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(e) One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a maximum capacity of 110 tons/hr, including: truck unloading station with two (2) hoppers; outdoor coal storage piles; two (2) vibratory feeders; one (1) underground belt conveyor with a magnetic separator; and one (1) bucket elevator terminating at the top of Wade Power House. Coal is fed to the bunkers for Boilers 1 and 2, and to the precrusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1 and Boiler 2 bunkers are controlled by a RotoClone for each bunker and exhaust to stack CB1 and CB2, respectively. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

(f) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a maximum capacity of 150 tons/hr, including: truck unloading station with outdoor storage piles and two (2) in-ground hoppers, two (2) vibratory feeders; one (1) totally enclosed tubular conveyor identified as BC-1 equipped with a magnetic separator and with emissions controlled by a baghouse exhausting to stack CV1; one (1) transfer enclosure with one (1) coal sampler, with emissions controlled by a baghouse exhausting to stack CV2; and one (1) totally enclosed tubular conveyor identified as BC-2 terminating at the top of Wade Power House, with emissions from the final transfer point controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boilers 1 and 2, and to the precrusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1 and Boiler 2 bunkers are controlled by a RotoClone for each bunker and exhaust to stack CB1 and CB2, respectively.

(g) One (1) coal preparation system for Boiler 5, with installation started in 1989 or 1990 and completed in 1991, with a maximum capacity of 12.68 tons/hr, including: one (1) enclosed pre-crusher; one (1) coal storage silo (aka coal storage bunker) with a baghouse exhausting to stack CB5; two (2) weigh belt feeders; and two (2) enclosed crushers.

Insignificant Activities:
Coal bunker and coal scale exhausts and associated dust collector vents.

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

D.4.1 New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart Y]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart Y (Standards of Performance for Coal Preparation Plants) the exhaust from the following coal processing and handling equipment shall not exhibit opacity greater than or equal to twenty percent (20%) [40 CFR 60.252(c)]:

(a) the conveyors of COAL Segment 2, beginning after the coal storage piles, but not including the conveyor section(s) used solely to feed the bunkers for Boilers 1 and 2; and

(b) the Boiler 5 coal preparation system.

D.4.2 PSD Minor Limit [326 IAC 2-2-1]

(a) In order to make the requirements of 326 IAC 2-2-1(x) and 326 IAC 2-2-1(jj) (PSD Requirements) not applicable to COAL Segment 2, the emissions from the coal storage and handling equipment included in COAL Segment 2 shall be limited to less than twenty-five (25) tons of particulate matter (PM) per twelve (12) consecutive month period and less than fifteen (15) tons of PM_{10} per twelve (12) consecutive month period. Compliance with these limits shall be determined at the end of each month.

(b) Pursuant to Construction Permit CP 157-3617, issued July 7, 1994, emissions from the coal storage and handling equipment included in COAL Segment 2 shall be limited as follows:

(1) Particulate matter (PM) emissions shall not exceed 5.7 pounds per hour.

(2) PM_{10} emissions shall not exceed 3.4 pounds per hour.

(3) All three baghouses (CV1, CV2, and CV3) shall remain operational at all times that the associated coal processing or conveyors are in use.

D.4.3 Particulate [326 IAC 6-3-2]

(a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the COAL Segment 1 shall not exceed 52.23 pounds per hour when operating at a process weight rate of 110 tons per hour, and the allowable particulate emission rate from the COAL Segment 2 shall not exceed 55.44 pounds per hour when operating at a process weight rate of 150 tons per hour. These pounds per hour limitations was calculated using the following equation:

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

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

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the Boiler 5 coal preparation system shall not exceed 22.48 pounds per hour when operating at a process weight rate of 12.68 tons per hour. The pounds per hour limitation was calculated using the following equation:

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

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

D.4.4 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the coal processing and conveying equipment identified in Condition D.4.1 except when otherwise specified in 40 CFR Part 60, Subpart Y.

D.4.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their emission control devices.

Compliance Determination Requirements

D.4.6 NSPS Test Methods and Procedures [326 IAC 2-7-6(1), (3), (6)] [326 IAC 2-1.1-11] [40 CFR 60.8] [40 CFR 60.46]

Within 180 days of issuance of this Part 70 permit, the Permittee shall conduct initial performance tests for NSPS Subpart Y. Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in 40 CFR 60.8 and 40 CFR 60.254 unless the Administrator approves an alternative in accordance with 40 CFR 60.8(b). [40 CFR 60.8]

D.4.7 NSPS Compliance Provisions [326 IAC 12] [40 CFR 60, Subpart Y]

Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity. [40 CFR 60.254(b)(2)]

D.4.8 Particulate Control [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, in order to comply with Conditions D.4.1, D.4.2, and D.4.3, the RotoClones, cartridge filters, and baghouses for particulate control shall be in operation and control emissions at all times the associated coal processing or conveying is in operation.

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

D.4.9 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) Visible emission notations of the coal unloading station shall be performed once per shift during normal daylight operations when unloading coal. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of each coal transfer exhaust point shall be performed once per shift during normal daylight operations when transferring coal. A trained employee shall record whether emissions are normal or abnormal.

(c) If abnormal emissions are observed from the coal unloading station or at any transfer point exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of abnormal emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(d) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation.

(e) 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.

(f) 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.

D.4.10 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall record the total static pressure drop across each of the baghouses used in conjunction with the coal transfer drop points at least once per shift when coal is being transferred. When for any one reading, the pressure drop across the baghouse is outside the normal range of 4.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

D.4.11 Baghouse Inspections [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) An inspection shall be performed each calendar quarter of all bags controlling particulate emissions from the coal processing or conveying. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.4.12 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected baghouse compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 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.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then 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).

D.4.13 RotoClone Inspections [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

An inspection shall be performed each calendar quarter of the RotoClones controlling the PM emissions. Inspections required by this condition shall not be performed in consecutive months.

D.4.14 RotoClone Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that RotoClone failure has been observed:

The 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

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

D.4.15 Record Keeping Requirements

(a) To document compliance with conditions D.4.1, D.4.2, D.4.3, and D.4.9, the Permittee shall maintain records of the visible emission notations of the coal unloading and coal transfer exhaust points.

(b) To document compliance with Condition D.4.10 the Permittee shall maintain records of the total static pressure drop across each baghouse.

(c) To document compliance with Condition D.4.11, the Permittee shall maintain records of the results of the baghouse inspections.

(c) To document compliance with Condition D.4.13, the Permittee shall maintain records of the results of the RotoClone inspections.

(d) To document compliance with Condition D.4.5, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

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

D.4.16 Reporting Requirements

The Permittee shall furnish the Administrator a written report of the results of the initial performance tests for NSPS Subpart Y and any subsequent performance tests in accordance with 40 CFR 60.8.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(h) One (1) pneumatic ash handling system for fly ash and bottom ash from Boilers 1 and 2, identified as ASH Segment 1, with a maximum capacity of 14 tons per hour, installed in approximately 1960 and modified in 2002. Ash/particulate matter collected from the primary, secondary and tertiary (baghouse) collection units is transferred to the existing ash silo. Ash accumulated in this silo is removed via a water mixer into trucks. Particulate matter that passes through the tertiary (baghouse) filter is exhausted to stack ASH1 while air from the ash silo is directed to a final filter before exhausting to stack AB1. Ash/particulate matter is transported through the system by an electric vacuum pump.

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

D.5.1 PSD Minor Limit [326 IAC 2-2-1]

(a) In order to make the requirements of 326 IAC 2-2-1(x) and 326 IAC 2-2-1(jj) (PSD Requirements) not applicable to the ash handling system identified as Ash Segment 1, the emissions from Ash Segment 1 shall be limited to less than twenty-five (25) tons of particulate matter (PM) per twelve (12) consecutive month period and less than fifteen (15) tons of PM_{10} per twelve (12) consecutive month period. Compliance with these limits shall be determined at the end of each month.

(b) Emissions from the ash handling equipment included in Ash Segment 1 shall be limited as follows:

(1) Particulate matter (PM) emissions shall not exceed 5.7 pounds per hour.

(2) PM_{10} emissions shall not exceed 3.4 pounds per hour.

D.5.2 Particulate [326 IAC 6-3-2]

Pursuant to Minor Source Mod 157-15659-00012, issued September 23, 2002, and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the ash handling system identified as ASH Segment 1 shall not exceed 24.03 pounds per hour when operating at a process weight rate of 14 tons per hour.

The pounds per hour limitation was calculated with the following equation:

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

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

D.5.3 Preventative Maintenance Plan [326 IAC 2-7-5(1)(13)]

A Preventative Maintenance Plan, in accordance with section C - Preventative Maintenance Plan, of this permit, is required for these facilities and their emission control devices.

Compliance Determination Requirements

D.5.4 Particulate Control [326 IAC 2-7-10.5(d)(5)(C)]

Pursuant to Minor Source Mod 157-15659-00012, issued September 23, 2002:

(a) The fresh water/mixing operation for the ash truck loading system shall be in operation and control the PM emissions from the ash at all times that the ash truck loading system is in operation.

(b) The baghouse of ASH1 stack and air filter for AB1 stack for PM control, shall be in operation and control the PM emissions from ash system at all times that the ash storage and handling system is in operation.

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

D.5.5 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) Once per shift visible emission notations of the ASH1 and AB1 exhaust stacks shall be performed during normal daylight operations and when the silo is receiving ash. A trained employee shall record whether emissions are normal or abnormal.

(b) Once per shift visible emission notations of the ash truck loading system shall be performed during normal daylight operations when the ash trucks are receiving ash. A trained employee shall record whether emissions are normal or abnormal.

(c) If abnormal emissions are observed from the ash silo unloading station or at any baghouse exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of abnormal emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(d) 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.

(e) 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.

(f) 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.

D.5.6 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall record the total static pressure drop across the baghouse and air filter controlling emissions from the ash handling system, at least once per shift when the when the ash handling system is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 to 4.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C-Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

D.5.7 Baghouse Inspections [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) An inspection shall be performed each calendar quarter of all bags controlling particulate emissions from the ash handling operation. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.5.8 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 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.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then 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).

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

D.5.9 Record Keeping Requirements

(a) To document compliance with Conditions D.5.1, D.5.2, and D.5.5, the Permittee shall maintain records of the visible emission notations of the ash silo unloading station, and the baghouse stack exhaust.

(b) To document compliance with Condition D.5.6, the Permittee shall maintain records of the total static pressure drop across each baghouse.

(c) To document compliance with Condition D.5.7, the Permittee shall maintain records of the results of the baghouse inspections.

(d) To document compliance with Condition D.5.3, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

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

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(i) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 5, identified as ASH Segment 2, installed in 1991 and modified in 2002, exhausting to stacks ASH5A and ASH5B, with a maximum capacity of 20 tons/hr, with dust from ash transfer to the storage silo controlled by primary and secondary separator with tertiary baghouse filter. Ash is transferred from the silo to trucks at a maximum capacity of 300 tons/hr; dust is controlled by water mix, or by use of a telescoping spout with air displaced from the truck directed through a "filter module" with five canister filters which exhaust to the atmosphere though a vent, ASH 5C.

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

D.6.1 Particulate [326 IAC 6-3-2]

(a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the pneumatic ash handling system for Boiler 5 shall not exceed 30.5 pounds per hour when operating at a process weight rate of 20 tons per hour. The pounds per hour limitation was calculated using the following equation:

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

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

(b) Pursuant to 326 IAC 6-3-2(e)(3) (Particulate Emission Limitations for Manufacturing Processes), for the ash unloading at the maximum throughput rate of 300 tons per hour, the concentration of particulate in the discharge gases to the atmosphere shall be less than 0.10 pounds per one thousand (1,000) pounds of gases.

D.6.2 Preventative Maintenance Plan [326 IAC 2-7-5(1)(13)]

A Preventative Maintenance Plan, in accordance with Section B - Preventative Maintenance Plan, of this permit, is required for these facilities and their emission control devices.

Compliance Determination Requirements

D.6.3 Particulate Control [326 IAC 2-7-6(6)]

(a) Except as otherwise provided by statute or rule or in this permit, in order to comply with Section C - Opacity and Condition D.6.1 (Particulate), the baghouse filters for particulate control shall be in operation and control emissions at all times that the associated ash handling is in operation; the telescoping spout shall be in operation and control emissions at all times that the dry ash loading system is in operation; and water shall be mixed with the ash at all times to control emissions when the wet process ash loading system.

(b) Pursuant to Minor Source Modification 157-15996-00012, issued February 17, 2003, the filter module and canister filters for the dry ash loading system, for PM control shall be in operation and control the PM emissions at all times that the dry ash loading system is in operation.

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

D.6.4 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) Visible emission notations of the ASH5A and ASH5B exhaust stacks and the exhaust vent ASH 5C shall be performed at least once per shift during normal daylight operations when transferring ash. A trained employee shall record whether emissions are normal or abnormal.

(b) If abnormal emissions are observed from the ash silo unloading station or at any baghouse or filter module exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of abnormal emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation.

(d) 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.

(e) 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.

D.6.5 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall record the total static pressure drop across the ash silo baghouse at least once per shift when the ash handling is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 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- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The Permittee shall record the total static pressure drop across the air filters controlling emissions from the dry ash truck loading system, at least once per shift when the dry ash truck loading system is in operation. When for any one reading, the pressure drop across the air filter is outside the normal range of 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(c) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

D.6.6 Baghouse and Filter Module Inspections [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) An inspection shall be performed each calendar quarter of all bags and canister filters controlling particulate emissions from the ash handling. Inspections required by this condition shall not be performed in consecutive months. All defective bags or filters

shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.6.7 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected baghouse compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 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.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then 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).

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

D.6.8 Record Keeping Requirements

(a) To document compliance with Condition D.6.4, the Permittee shall maintain records of the visible emission notations of the ASH5A and ASH5B exhaust stacks and the exhaust vent ASH 5C.

(b) To document compliance with Condition D.6.5, the Permittee shall maintain records of the total static pressure drop across each baghouse.

(c) To document compliance with Condition D.6.6, the Permittee shall maintain records of the results of the baghouse and filter module inspections.

(d) To document compliance with Condition D.6.2, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

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

SECTION D.7 FACILITY CONDITIONS

Facility Description [326 IAC 2-7-5(15)]; (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(j) Material handling for the limestone injection system for Boiler 5, including pneumatic conveyance from truck to bulk storage in a silo outside or to a "day bin" inside the plant at an offload rate of approximately 12.5 tons per hour; gravity fed from day bin into the boiler. Particulate emissions are controlled by a baghouse on the silo and filter cartridges on the day bin. The feed rate of limestone to the boiler varies depending on the sulfur content of the coal being fired; the average feed rate is 1 ton per hour, and the maximum rate is approximately 5 tons/hour.

Insignificant Activity:

Covered conveyors for limestone conveying of less than or equal to 7,200 tons per day for sources other than mineral processing plants constructed after August 31, 1983.

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

D.7.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the limestone handling system shall not exceed 22.2 pounds per hour when operating at a process weight rate of 12.5 tons per hour. This pounds per hour limitation was calculated using the following equation:

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

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

D.7.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any emission control devices.

Compliance Determination Requirements

D.7.3 Particulate Control [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, the baghouse and filter cartridges for PM control shall be in operation and control emissions at all times the associated limestone transfer points are in operation.

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

D.7.4 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) Visible emission notations of the limestone handling system exhaust points shall be performed at least once per shift during normal daylight operations when limestone is being transferred. A trained employee shall record whether emissions are normal or abnormal.

(b) If visible emissions are observed crossing the property line or boundaries of the property, right-of-way, or easement on which the source is located, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports.

(c) If abnormal emissions are observed from a limestone handling system exhaust point, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of an abnormal emission that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(d) 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.

(e) 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.

(f) 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.

D.7.5 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the limestone storage silo at least once per shift when limestone is being transferred into the silo. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 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- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

D.7.6 Baghouse Inspections [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) An inspection shall be performed each calendar quarter of all bags controlling particulate emissions from the limestone storage silo and all filter cartridges controlling particulate emissions from the limestone day bin. Inspections required by this condition shall not be performed in consecutive months. All defective filters shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.7.7 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected baghouse compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable

described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 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.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then 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).

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

D.7.7 Record Keeping Requirements

(a) To document compliance with Condition D.7.4, the Permittee shall maintain records of the visible emission notations of the limestone exhaust vents.

(b) To document compliance with Condition D.7.5, the Permittee shall maintain records of the total static pressure drop across each baghouse.

(c) To document compliance with Condition D.7.6, the Permittee shall maintain records of the results of the baghouse inspections.

(c) To document compliance with Condition D.7.2, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

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

SECTION D.8 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(k) One (1) 6.5 MMBtu/hr natural gas fired dual chamber animal carcass incinerator, identified as ADDL, installed in 1991, with an 800 lb/hr waste capacity, exhausting to stack PUADDL1.

Insignificant Activities:

(1) One (1) No. 2 fuel oil fired animal carcass incinerator for poultry, installed in 1991 or 1992, with an afterburner and a 100 lb/hr waste capacity, located at the animal sciences farm, 5675 W 600 N, West Lafayette, Indiana;

(2) One (1) No. 2 fuel oil fired animal carcass incinerator for swine, installed in 1991 or 1992, with an afterburner and a 100 lb/hr waste capacity, located at the animal sciences farm, 5675 W 600 N, West Lafayette, Indiana;

(3) One (1) natural gas fired incinerator identified as RAD1, installed in 1986, with primary and secondary chambers and a 50 lb/hr waste capacity, for burning laboratory waste and non-infectious biological material contaminated with low level radioactivity, located at the By-Product Material Storage Building North (BMSN).

(4) One (1) natural gas fired incinerator identified as RAD2, installed in 1996, with an afterburner and a 50 lb/hr waste capacity, for burning laboratory waste and non-infectious biological material contaminated with low level radioactivity, located at the By-Product Material Storage Building North (BMSN).

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

D.8.1 Incinerators [326 IAC 4-2-2]

(a) Pursuant to 326 IAC 4-2-2 (Incinerators), all incinerators shall comply with the following requirements:

(1) Consist of primary and secondary chambers or the equivalent.

(2) Be equipped with a primary burner unless burning only wood products.

(3) Comply with 326 IAC 5-1 and 326 IAC 2.

(4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in subsection (c).

(5) Not emit particulate matter in excess of one (1) of the following:

(A) For RAD1, with a 250 lb/hr waste capacity:

Three-tenths (0.3) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air.

(B) For the poultry and swine incinerators, each with a 100 lb/hr waste capacity, and for RAD2, with a 50 lb/hr waste capacity:

Five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty

percent (50%) excess air for incinerators with solid waste capacity less than two hundred (200) pounds per hour.

(6) If any of the requirements of subdivisions (1) through (5) are not met, then the owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

(b) An incinerator is exempt from subsection (a)(5) if subject to a more stringent particulate matter emission limit in 40 CFR 52 Subpart P*, State Implementation Plan for Indiana.

(c) An owner or operator developing an operation and maintenance plan pursuant to subsection (a)(4) must comply with the following:

(1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in subsection (a)(5) and include the following:

(A) Procedures for receiving, handling, and charging waste.

(B) Procedures for incinerator startup and shutdown.

(C) Procedures for responding to a malfunction.

(D) Procedures for maintaining proper combustion air supply levels.

(E) Procedures for operating the incinerator and associated air pollution control systems.

(F) Procedures for handling ash.

(G) A list of wastes that can be burned in the incinerator.

(2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.

(3) The operation and maintenance plan must be readily accessible to incinerator operators.

(4) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.

(d) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

D.8.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any emission control devices.

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

D.8.3 Record Keeping Requirements

(a) To document compliance with Condition D.8.2, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

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

SECTION D.9 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(l) One (1) 17.7 MMBtu/hr no. 2 fuel oil fired Black Start electric generator, identified as BSG, exhausting through stack BSG-1, with a fuel limit of 113,000 gallons per year.

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

D.9.1 Source Modification Limits [326 IAC 2-7-10.5(d)(5)(D)] [326 IAC 2-2-1]

(a) Pursuant to 326 IAC 2-7-10.5(d)(5) (Source Modifications), the potential to emit of nitrogen oxides (NO_X) from the Black Start generator shall be limited to less than 25 tons per year, as follows:

(1) The input of No. 2 fuel oil to the generator, BSG, shall be limited to less than 113,000 gallons per 12 consecutive month period, with compliance determined at the end of each month.

(2) NO_X emissions shall not exceed 3.2 lb/MMBtu.

(b) Compliance with this limit makes 326 IAC 2-7-10.5(f), (g), and (h) ("Significant Source Modifications") not applicable to this modification.

(c) Compliance with this limit also makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-1.1-4 (Federal Provisions) not applicable to this modification.

D.9.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this approval, is required for this facility.

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

D.9.3 Record Keeping Requirements

(a) Pursuant to Minor Source Modification 157-10906-00012, issued August 27, 1999, to document compliance with Condition D.9.1, the Permittee shall maintain records in accordance with (1) through (6) below.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period and equivalent nitrogen oxides (NO_X) emissions;

(3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

(4) Fuel supplier certifications;

(5) The name of the fuel supplier; and

(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

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

D.9.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.9.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this approval, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.10 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Insignificant Activities:

Boilers using the following fuels:

(A) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including three (3) natural gas fired Aviation Tech Building Boilers with low-NO_X combustion systems, installed in 2000, each with 2.8 MMBtu/hr heat input capacity, identified as AV Tech Boiler 1, AV Tech Boiler 2, and AV Tech Boiler 3.

(B) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.

(C) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) Btu per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight.

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

D.10.1 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission Limitations for Facilities Specified in 326 IAC 6-2-1(d)), the PM emissions from each of the boilers classified as an insignificant activity shall not exceed 0.1 pound per million Btu heat input (lb/MMBtu).

SECTION D.11 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(m) Two (2) portable pumps powered by 350 HP no. 2 diesel fueled engines and mounted on tri-axle trailers, located at the Animal Sciences Research and Education Center, operated intermittently (approximately 500 hours per year each), used for pumping lagoon material to the spray irrigation system and to transfer material from one lagoon to another.

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

D.11.1 Sulfur Dioxide Emission Limitations [326 IAC 7-1.1]

Pursuant to Minor Source Modification 157-15944-00012, issued October 21, 2002, and 326 IAC 7-1.1-2, the sulfur dioxide emissions from fuel combustion facilities shall not exceed five-tenths (0.5) pound per million Btu for distillate oil combustion.

Compliance Determination Requirements

D.11.2 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2] [326 IAC 7-1.1-2]

Compliance with Condition D.11.1 shall be determined utilizing one of the following options:

(a) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed the equivalent of five-tenths (0.5) pound per million Btu heat input.

(b) Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7-4, fuel sampling and analysis data shall be collected as follows:

(1) The Permittee may rely upon vendor analysis of fuel delivered, if accompanied by a vendor certification [326 IAC 3-7-4(b)]; or,

(2) The Permittee shall perform sampling and analysis of fuel oil samples in accordance with 326 IAC 3-7-4(a).

(A) Oil samples shall be collected from the tanker truck load prior to transferring fuel to the storage tank; or

(B) Oil samples shall be collected from the storage tank immediately after each addition of fuel to the tank.

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

D.11.3 Record Keeping Requirements

(a) To document compliance with the requirements in Conditions D.11.1 and D.11.2, the Permittee shall maintain records of all fuel sampling and analysis data, pursuant to 326 IAC 7-2. Records and shall be complete and sufficient to establish compliance with the SO_2 limit in Condition D.11.1.

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

SECTION D.12 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Insignificant Activities [326 IAC 2-7-1(21)]:

Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3]

Cleaners and solvents characterized as follows: [326 IAC 8-3]

Having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 degrees C (100EF) or;

Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20EC (68EF); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

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

D.12.1 Organic Solvent Degreasing Operations: Cold Cleaner Operation [326 IAC 8-3-2]

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

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.12.2 Organic Solvent Degreasing Operations: Cold Cleaner Degreaser Operation and Control [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs, constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius ($38^{O}C$) (one hundred degrees Fahrenheit ($100^{O}F$));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120^{O}F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

SECTION D.13 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Insignificant Activities:

The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

Furnaces used for melting metals other than beryllium with a brim full capacity of less than or equal to 450 cubic inches by volume.

Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.

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

D.13.1 Particulate [326 IAC 6-3-2] [40 CFR 52 Subpart P]

(a) Pursuant to 40 CFR 52 Subpart P, particulate matter emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

(b) 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. This condition is not federally enforceable.

(c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the brazing, cutting, soldering, welding, melt furnace(s), grinding, and machining operations shall not exceed an amount determined by the following, for a process weight rate equal to or greater than 100 pounds per hour:

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

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

D.13.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any emission control devices.

Compliance Determination Requirement

D.13.3 Particulate Control [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, the particulate control shall be in operation and control emissions from the grinding and machining operations at all times that the associated process is in operation.

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

D.13.4 Record Keeping Requirements

(a) To document compliance with Condition D.13.2, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

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

SECTION E Nitrogen Oxides Budget Trading Program - NO_X Budget Permit for NO_X Budget Units Under 326 IAC 10-4-1(a)

ORIS Code: 50240

NO_X Budget Source [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a maximum capacity of 281 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 01. Boiler 1 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods. Boiler 1 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X) and a continuous opacity monitor (COM).

(b) One (1) spreader stoker coal fired boiler, identified as Boiler 2, with installation completed in 1967, with a maximum capacity of 274 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 02. Boiler 2 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods. Boiler 2 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X) and a continuous opacity monitor (COM).

(c) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation completed in 1991, with a design capacity of 279 MMBtu/hr, with a baghouse for particulate matter control and limestone injection for sulfur dioxide control, combusting natural gas for ignition, exhausting to stack WADE 05. Boiler 5 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

(d) One (1) natural gas and distillate fuel oil fired boiler, identified as Boiler 3, with installation started in 1973 or 1974 and completed in 1974, with a maximum capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

E.1 Automatic Incorporation of Definitions [326 IAC 10-4-7(e)]

This NO_X budget permit is deemed to incorporate automatically the definitions of terms under 326 IAC 10-4-2.

E.2 Standard Permit Requirements [326 IAC 10-4-4(a)]

(a) The owners and operators of the NO_X budget source and each NO_X budget unit shall operate each unit in compliance with this NO_X budget permit.

(b) The NO_X budget units subject to this NO_X budget permit include the following: Boiler 1, Boiler 2, Boiler 5, and Boiler 3.

E.3 Monitoring Requirements [326 IAC 10-4-4(b)]

(a) The owners and operators and, to the extent applicable, the NO_X authorized account representative of the NO_X budget source and each NO_X budget unit at the source shall comply with the monitoring requirements of 40 CFR 75 and 326 IAC 10-4-12.

(b) The emissions measurements recorded and reported in accordance with 40 CFR 75 and 326 IAC 10-4-12 shall be used to determine compliance by each unit with the NO_X budget emissions limitation under 326 IAC 10-4-4(c) and Condition E.4, Nitrogen Oxides Requirements.

E.4 Nitrogen Oxides Requirements [326 IAC 10-4-4(c)]

(a) The owners and operators of the NO_X budget source and each NO_X budget unit at the source shall hold NO_X allowances available for compliance deductions under 326 IAC 10-4-10(j), as of the NO_X allowance transfer deadline, in each unit's compliance account and the source's overdraft account in an amount:

(1) Not less than the total NO_X emissions for the ozone control period from the unit, as determined in accordance with 40 CFR 75 and 326 IAC 10-4-12;

(2) To account for excess emissions for a prior ozone control period under 326 IAC 10-4-10(k)(5); or

(3) To account for withdrawal from the NO_X budget trading program, or a change in regulatory status of a NO_X budget opt-in unit.

(b) Each ton of NO_X emitted in excess of the NO_X budget emissions limitation shall constitute a separate violation of the Clean Air Act (CAA) and 326 IAC 10-4.

(c) Each NO_X budget unit shall be subject to the requirements under (a) above and 326 IAC 10-4-4(c)(1) starting on May 31, 2004.

(d) NO_X allowances shall be held in, deducted from, or transferred among NO_X allowance tracking system accounts in accordance with 326 IAC 10-4-9 through 11, 326 IAC 10-4-13, and 326 IAC 10-4-14.

(e) A NO_X allowance shall not be deducted, in order to comply with the requirements under (a) above and 326 IAC 10-4-4(c)(1), for an ozone control period in a year prior to the year for which the NO_X allowance was allocated.

(f) A NO_X allowance allocated under the NO_X budget trading program is a limited authorization to emit one (1) ton of NO_X in accordance with the NO_X budget trading program. No provision of the NO_X budget trading program, the NO_X budget permit application, the NO_X budget permit, or an exemption under 326 IAC 10-4-3 and no provision of law shall be construed to limit the authority of the U.S. EPA or IDEM, OAQ to terminate or limit the authorization.

(g) A NO_X allowance allocated under the NO_X budget trading program does not constitute a property right.

(h) Upon recordation by the U.S. EPA under 326 IAC 10-4-10, 326 IAC 10-4-11, or 326 IAC 10-4-13, every allocation, transfer, or deduction of a NO_X allowance to or from each NO_X budget unit's compliance account or the overdraft account of the source where the unit is located is deemed to amend automatically, and become a part of, this NO_X budget permit of the NO_X budget unit by operation of law without any further review.

E.5 Excess Emissions Requirements [326 IAC 10-4-4(d)]

The owners and operators of each NO_X budget unit that has excess emissions in any ozone control period shall do the following:

(a) Surrender the NO_X allowances required for deduction under 326 IAC 10-4-10(k)(5).

(b) Pay any fine, penalty, or assessment or comply with any other remedy imposed under 326 IAC 10-4-10(k)(7).

E.6 Record Keeping Requirements [326 IAC 10-4-4(e)] [326 IAC 2-7-5(3)]

Unless otherwise provided, the owners and operators of the NO_X budget source and each NO_X budget unit at the source shall keep, either on site at the source or at a central location within

Indiana for those owners or operators with unattended sources, each of the following documents for a period of five (5) years:

(a) The account certificate of representation for the NO_X authorized account representative for the source and each NO_X budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with 326 IAC 10-4-6(h). The certificate and documents shall be retained either on site at the source or at a central location within Indiana for those owners or operators with unattended sources beyond the five (5) year period until the documents are superseded because of the submission of a new account certificate of representation changing the NO_X authorized account representative.

(b) All emissions monitoring information, in accordance with 40 CFR 75 and 326 IAC 10-4-12, provided that to the extent that 40 CFR 75 and 326 IAC 10-4-12 provide for a three (3) year period for record keeping, the three (3) year period shall apply.

(c) Copies of all reports, compliance certifications, and other submissions and all records made or required under the NO_X budget trading program.

(d) Copies of all documents used to complete a NO_X budget permit application and any other submission under the NO_X budget trading program or to demonstrate compliance with the requirements of the NO_X budget trading program.

This period may be extended for cause, at any time prior to the end of five (5) years, in writing by IDEM, OAQ or the U.S. EPA. Records retained at a central location within Indiana shall be available immediately at the location and submitted to IDEM, OAQ or U.S. EPA within three (3) business days following receipt of a written request. Nothing in 326 IAC 10-4-4(e) shall alter the record retention requirements for a source under 40 CFR 75. Unless otherwise provided, all records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

E.7 Reporting Requirements [326 IAC 10-4-4(e)]

(a) The NO_X authorized account representative of the NO_X budget source and each NO_X budget unit at the source shall submit the reports and compliance certifications required under the NO_X budget trading program, including those under 326 IAC 10-4-8, 326 IAC 10-4-12, or 326 IAC 10-4-13.

(b) Pursuant to 326 IAC 10-4-6(e), each submission shall include the following certification statement by the NO_X authorized account representative: "I am authorized to make this submission on behalf of the owners and operators of the NO_X budget sources or NO_X budget units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

(c) Where 326 IAC 10-4 requires a submission to IDEM, OAQ, the NO_X authorized account representative shall submit required information to:

Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(d) Where 326 IAC 10-4 requires a submission to U.S. EPA, the NO_X authorized account representative shall submit required information to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue, NW
Mail Code 6204N
Washington, DC 20460

E.8 Liability [326 IAC 10-4-4(f)]

The owners and operators of each NO_X budget source shall be liable as follows:

(a) Any person who knowingly violates any requirement or prohibition of the NO_X budget trading program, a NO_X budget permit, or an exemption under 326 IAC 10-4-3 shall be subject to enforcement pursuant to applicable state or federal law.

(b) Any person who knowingly makes a false material statement in any record, submission, or report under the NO_X budget trading program shall be subject to criminal enforcement pursuant to the applicable state or federal law.

(c) No permit revision shall excuse any violation of the requirements of the NO_X budget trading program that occurs prior to the date that the revision takes effect.

(d) Each NO_X budget source and each NO_X budget unit shall meet the requirements of the NO_X budget trading program.

(e) Any provision of the NO_X budget trading program that applies to a NO_X budget source, including a provision applicable to the NO_X authorized account representative of a NO_X budget source, shall also apply to the owners and operators of the source and of the NO_X budget units at the source.

(f) Any provision of the NO_X budget trading program that applies to a NO_X budget unit, including a provision applicable to the NO_X authorized account representative of a NO_X budget unit, shall also apply to the owners and operators of the unit. Except with regard to the requirements applicable to units with a common stack under 40 CFR 75 and 326 IAC 10-4-12, the owners and operators and the NO_X authorized account representative of one (1) NO_X budget unit shall not be liable for any violation by any other NO_X budget unit of which they are not owners or operators or the NO_X authorized account representative and that is located at a source of which they are not owners or operators or the NO_X authorized account representative.

E.9 Effect on Other Authorities [326 IAC 10-4-4(g)]

No provision of the NO_X budget trading program, a NO_X budget permit application, a NO_X budget permit, or an exemption under 326 IAC 10-4-3 shall be construed as exempting or excluding the owners and operators and, to the extent applicable, the NO_X authorized account representative of a NO_X budget source or NO_X budget unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the CAA.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Purdue University
Source Address: 401 S. Grant Street, 1665 L..J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Mailing Address: 401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Part 70 Permit No.: T157-7340-00012

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:

Telephone:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

COMPLIANCE BRANCH
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Purdue University
Source Address: 401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Mailing Address: 401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Part 70 Permit No.: T157-7340-00012

This form consists of 2 pages **Page 1 of 2**

9 This is an emergency as defined in 326 IAC 2-7-1(12)

- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-5967), 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: _____

Telephone: _____

A certification is not required for this report.

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

Boiler 1 and 2 Natural Gas Usage - Quarterly Report

Source Name: Purdue University
Emission Unit Location: Wade Powerhouse, West Lafayette, IN
Mailing Address: 401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Source Modification No.: 157-10906-00012
Facility: Boiler 1 and Boiler 2 - natural gas-fired burners
Parameter: natural gas usage
Limit: not more than 395 MMCF per 12 consecutive month period

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	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: _____

Telephone: _____

Attach a signed certification to complete this report.

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

Fuel Oil-Fired Electric Generator (BSG) Quarterly Report

Source Name: Purdue University
Emission Unit Location: Wade Powerhouse, West Lafayette, IN
Mailing Address: 401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Source Modification No.: 157-10906-00012
Facility: 17.7 MMBtu/hr electric generator, BSG
Parameter: no. 2 fuel oil usage
Limit: less than 113,000 gallons per 12 consecutive month period

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	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: _____

Telephone: _____

Attach a signed certification to complete this report.

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

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Purdue University
Source Address: 401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Mailing Address: 401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Part 70 Permit No.: T157-7340-00012

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

This report shall be submitted quarterly based on a calendar year. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive. 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. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do 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".

NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

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

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

Page 2 of 2

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: ______________________________

Telephone: ______________________________

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document for Part 70 Operating Permit

Source Background and Description

Source Name:	**Purdue University**
Source Location:	**401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665**
County:	**Tippecanoe**
SIC Code:	**8221**
Operation Permit No.:	**T157-7340-00012**
Permit Reviewer:	**Vickie Cordell**

On January 6, 2004, the Office of Air Quality (OAQ) had a notice published in the Journal & Courier, Lafayette, Indiana, stating that Purdue University had applied for a Part 70 Operating Permit to operate a stationary electric utility generation station. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On February 5, 2004, Robin Ridgeway, Purdue University, submitted comments on the proposed Part 70 permit. The comments and any changes made as a result of the comments follows. Comments were combined where a single response applied to multiple comments. New text is shown in bold font and deleted text is shown in strikeout font. The Table Of Contents has been modified to reflect these changes.

Comment 1

Section A (Introduction) - The reference to Condition A.3 in the second sentence should be changed to be Condition A.4.

Response to Comment 1

The information in Conditions A.1 (General Information), A.3 (Emission Units and Pollution Control Equipment Summary), and A.4 (Specifically Regulated Insignificant Activities) does not constitute enforceable conditions. The permit has been revised as follows:

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**, and A.4** 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.

Comment 2

Condition A.3 (Emission Units and Pollution Control Summary):

Condition A.3(d) - Purdue requests that the fuels for Boiler 3 be described as natural gas and <u>distillate</u> fuel oil, rather than natural gas and No. 2 fuel oil. Purdue occasionally receives Jet A Fuel or JP 8 that is added to the fuel storage tank for Boiler 3. This has involved the addition of 5,000 to 10,000 gallons per

year of Jet A Fuel or JP 8 to the storage tank containing approximately 500,000 gallons of No. 2 fuel oil. This change should also be made to the Facility Description contained in Section D.3.

Condition A.3(e) - Purdue requests that the description for COAL, Segment 1, be changed as follows (this change should also be made to the Facility Description contained in Section D.4):
(e) One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a maximum capacity of 110 tons/hr, including: truck unloading station with two (2) hoppers; outdoor coal storage piles; two (2) vibratory feeders; one (1) underground belt conveyor **with a magnetic separator**; and one (1) bucket elevator terminating at the top of Wade Power House. Coal is fed to the bunkers for Boilers 1 and 2 with emissions controlled by **two (2)** RotoClones, exhausting to stacks CB1 and CB2, and to the precrusher ahead of the ~~outdoor~~ **indoor** storage silo for Boiler 5. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

Condition A.3(f) - Purdue requests that the description for COAL, Segment 2, be changed as follows (this change should also be made to the Facility Description contained in Section D.4):
(f) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a maximum capacity of 150 tons/hr, including: truck unloading station with **outdoor storage piles and** two (2) **in-ground** hoppers, **two (2) vibratory feeders; one (1) totally enclosed tubular conveyor identified as BC-1 equipped with a magnetic separator and** with emissions controlled by a baghouse exhausting to stack CV1; ~~outdoor coal storage piles; two (2) vibratory feeders; one (1) totally enclosed tubular conveyor identified as BC-1;~~ one (1) transfer enclosure with one (1) coal sampler, with emissions controlled by a baghouse exhausting to stack CV2; and one (1) totally enclosed tubular conveyor identified as BC-2 terminating at the top of Wade Power House, with emissions **from the final transfer point** controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boilers 1 and 2 **with emissions controlled by two (2) RotoClones, exhausting to stacks CB1 and CB2**, and to the precrusher ahead of the ~~outdoor~~ **indoor** storage silo for Boiler 5.

Condition A.3(l) - The fuel limit in this description should be revised to be 113,000 to be consistent with Condition D.9.1(a)(1). This change should also be made to the description contained within the Facility Description for Section D.9.

Condition A.4, Specifically Regulated Insignificant Activities:

Condition A.4(i) - This section identifies four insignificant incinerators operated by Purdue. The capacity on all of these units is listed in terms of pounds per hour, even though all four units operate on a batch basis over a period in excess of one hour. In most cases, it appears that the pound per hour capacity was determined by dividing the maximum batch capacity by the number of hours per batch. The one exception to this is the unit identified as RAD1, which is shown with a 250 pound per hour waste capacity. In reality, this unit has a 250-pound batch capacity, with a batch requiring approximately five hours for complete destruction. Thus, to make the description of this unit consistent with the other incinerators shown, the capacity should be listed as 50 pounds per hour. This change should also be made to the facility description in Section D.8.

Condition A.4(i)(3) - The fuel for this unit should be listed as natural gas, not LP gas. In addition, Purdue has determined that this unit was installed in 1986, not 1984. These changes should also be made to the Facility Description for Section D.8 (item 3).

Response to Comment 2

Following the formal comment period, Purdue clarified that there is one RotoClone on each of the Boiler 1 and 2 bunkers. The requested changes have been made to Condition A.3(d), (e), (f) and (l), and Condition A.4(i), as shown below, and in the description boxes in the D sections and Section E of the permit.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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

(d) One (1) natural gas and ~~No. 2 fuel~~ **distillate** oil fired boiler, identified as Boiler 3, with installation started in 1973 or 1974 and completed in 1974, with a maximum capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_x).

(e) One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a maximum capacity of 110 tons/hr, including: truck unloading station with two (2) hoppers; outdoor coal storage piles; two (2) vibratory feeders; one (1) underground belt conveyor **with a magnetic separator**; and one (1) bucket elevator terminating at the top of Wade Power House. Coal is fed to the bunkers for Boilers 1 and 2 ~~with emissions controlled by RotoClones, exhausting to stacks CB1 and CB2~~, and to the precrusher ahead of the ~~outdoor~~ **indoor** storage silo for Boiler 5. **Emissions from the Boiler 1 and Boiler 2 bunkers are controlled by a RotoClone for each bunker and exhaust to stack CB1 and CB2, respectively.** COAL Segment 1 has been retained as a backup system for COAL Segment 2.

(f) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a maximum capacity of 150 tons/hr, including: truck unloading station with **outdoor storage piles and** two (2) **in-ground** hoppers, **two (2) vibratory feeders; one (1) totally enclosed tubular conveyor identified as BC-1 equipped with a magnetic separator and** with emissions controlled by a baghouse exhausting to stack CV1; ~~outdoor coal storage piles; two (2) vibratory feeders; one (1) totally enclosed tubular conveyor identified as BC-1;~~ one (1) transfer enclosure with one (1) coal sampler, with emissions controlled by a baghouse exhausting to stack CV2; and one (1) totally enclosed tubular conveyor identified as BC-2 terminating at the top of Wade Power House, with emissions **from the final transfer point** controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boilers 1 and 2, and to the precrusher ahead of the ~~outdoor~~ **indoor** storage silo for Boiler 5. **Emissions from the Boiler 1 and Boiler 2 bunkers are controlled by a RotoClone for each bunker and exhaust to stack CB1 and CB2, respectively.**

(l) One (1) 17.7 MMBtu/hr no. 2 fuel oil fired Black Start electric generator, identified as BSG, exhausting through stack BSG-1, with a fuel limit of ~~114,000~~ **113,000** gallons per year.

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(i) Other activities or categories not previously identified with potential, uncontrolled emissions equal to or less than thresholds require listing only: Pb 0.6 ton per year or 3.29 pounds per day, SO_2 5 pounds per hour or 25 pounds per day, NO_X 5 pounds per hour or 25 pounds per day, CO 25 pounds per day, PM 5 pounds per hour or 25 pounds per day, VOC 3 pounds per hour or 15 pounds per day:

(1) One (1) No. 2 fuel oil fired animal carcass incinerator for poultry, installed in 1991 or 1992, with an afterburner and a 100 lb/hr waste capacity, located at the animal sciences farm, 5675 W 600 N, West Lafayette, Indiana; [326 IAC 4-2-1]

(2) One (1) No. 2 fuel oil fired animal carcass incinerator for swine, installed in 1991 or 1992, with an afterburner and a 100 lb/hr waste capacity, located at the animal sciences farm, 5675 W 600 N, West Lafayette, Indiana; [326 IAC 4-2-1]

(3) One (1) ~~LP~~ **natural** gas fired incinerator identified as RAD1, installed in ~~1984~~ **1986**, with primary and secondary chambers and a ~~250~~ **50** lb/hr waste capacity, for burning laboratory waste and non-infectious biological material contaminated with low level radioactivity, located at the By-Product Material Storage Building

North (BMSN). [326 IAC 4-2-1]

(4) One (1) natural gas fired incinerator identified as RAD2, installed in 1996, with an afterburner and a 50 lb/hr waste capacity, for burning laboratory waste and non-infectious biological material contaminated with low level radioactivity, located at the By-Product Material Storage Building North (BMSN). [326 IAC 4-2-1]

Comment 3

Condition C.12 (Maintenance of Continuous Opacity Monitoring Equipment)

Condition C.12(a) - This condition requires that the "COM be in operation at all times that the induced draft fan is in operation". The ID fan for boilers may be in operation at times when the boilers are not in operation (such as during maintenance or during cool down). Purdue suggests that this be clarified to require that the COM be in operation at all times that there is a fire in the boiler.

Response to Comment 3

The opacity limit and the requirement to use a continuous opacity monitor are applicable to any times that opacity is emitted by or from the boilers, including opacity emitted during maintenance or cool down. However, OAQ recognizes that when the induced draft fan is not in operation, standing particulate in the stack can cause false opacity emission readings when no opacity is actually being emitted from the stack. To address this possibility, OAQ has specified that the COM must be in operation at all times that the induced draft fan is operation. There is no change to this condition.

Comment 4

C.14 Pressure Gauge and Other Instrument Specifications

Condition C.14(b) - This condition requires that instruments used for certain measurements, including flow measurements, be accurate within plus or minus two percent of full scale reading. Flow monitoring requirements for Purdue's boilers are established in 40 CFR Part 75, and do not require instrument accuracy to this degree. Purdue suggests that this condition be reworded as follows:

"Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit ... be accurate within plus or minus two percent (+ 2%) of full scale reading, **unless applicable State or Federal statutes provide for a different level of accuracy**."

Response to Comment 4

C.14(a) is the part of this condition that addresses pressure drop readings; C.14(b) addresses voltage, current, temperature, and flow rate. The requested wording has been added to both parts:

C.14 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading, **unless applicable State or Federal statutes provide for a different level of accuracy**.

(b) Whenever a condition in this permit requires the measurement of a voltage, current, temperature or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading, **unless applicable State or Federal statutes provide for a different level of accuracy**.

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

Comment 5

D.1.1 Heat Input Limitation

Condition D.1.1(b) - This condition limits the heat input to 248 mmBtu/hr averaged monthly, which was contained in an Exemption Qualification 157-9990-00055 issued August 27, 1998 and Amendment A 157-10100-00055 issued September 15, 1998. The exemptions cited regarded the installation of natural gas-fired burners into Boilers 1 and 2. The 248 mmBtu/hr limit was incorporated into operating permits for Purdue during the 1980's in response to rulemaking by the Indiana Air Pollution Control Board that required the installation of continuous emission monitors for sulfur dioxide for boilers with a heat input above 250 mmBtu/hr. This rule (326 IAC 3-5) has since been modified to indicate that such monitoring is only necessary for boilers that have sulfur dioxide air pollution control equipment. Purdue now questions whether the 248 mmBtu/hr limit is necessary in its permit, and asks that this limit be removed if IDEM determines that its removal will not trigger any new applicable requirements for these units. Purdue would be happy to provide additional information that demonstrates the requested change does not trigger new source review requirements, if such information is necessary.

Condition D.1.15(a)(5) - Purdue requests that this condition be reworded to read "Boiler **average** heat input per hour for each boiler each month ..." to be consistent with the applicable requirement.

Response to Comment 5

OAQ agrees that the 248 MMBtu/hr heat input limit was intended only to limit these boilers below 250 MMBtu/hr so that the units were not required to have SO_2 CEMS under a previous version of 326 IAC 3-5. In addition, the natural gas usage limit and heat input limit did not effectively limit the NO_X emissions from the gas-fired burners to below 40 tons per year, so that PSD review would not be applicable to the burner installation.

The gas burners were added to minimize opacity emissions during periods of startup, heat ramp up, and flame stabilization. The intermittent need for the gas firing makes an annual gas usage limit a simpler and more effective method of limiting NO_X emissions from the gas firing. The manufacturer's NO_X emission factor provided for the Exemption Qualification was used to calculate the fuel usage limit.

Because the gas burners for both boilers were planned and permitted as a single project, it is appropriate to use a single limit for the gas usage for both boilers. To keep NO_X emissions from the four (4) gas-fired burners below 40 tons per year, the combined annual natural gas usage for both boilers has been limited to 395 million cubic feet per year (MMCF/yr).

$$\frac{395 \text{ MMCF/hr} \times 200 \text{ lbs of } NO_X \text{ /MMCF}}{2{,}000 \text{ lbs/ton}} = 39.5 \text{ tons of } NO_X \text{ per year}$$

A spreadsheet showing all of the emission calculations for the burners is attached as TSD Addendum **Appendix A**. The Annual Emission Reports submitted by Purdue since the burners were installed show the gas usage for each boiler; the highest usage reported is a total of 15 MMCF in 1999.

D.1.1 ~~Heat Input~~ **Nitrogen Oxides Emission** Limitation [326 IAC 2-2]

~~(a)~~ ~~Pursuant to the Exemption Qualification EQ 157-9990-00055, issued August 27, 1998, and Amendment A 157-10100-00055, issued September 15, 1998, and in~~ **In** order to make the requirements of 326 IAC 2-2 (PSD Requirements) not applicable to the addition

of natural gas fired burners to the existing Boilers 1 and 2~~, any increase in the nitrogen oxides (NO_x) emissions attributable to the use of the additional burners shall be limited to less than 40 tons per twelve (12) consecutive month period. Compliance with this limit shall be determined at the end of each month.~~ **the following limits shall apply:**

~~(b)~~**(a)** The **combined** ~~input fuel~~ **natural gas** usage for ~~each boiler (~~ Boiler 1 and Boiler 2~~)~~ shall **not exceed 395 million cubic feet (MMCF) per twelve (12) consecutive month period. Compliance with this limit shall be determined at the end of each month.** ~~be limited as follows:~~

~~(1) Natural gas usage per boiler shall not exceed 70 MMBtu/hr heat input, averaged monthly, and~~

~~(2) Coal and natural gas usage combined per boiler shall not exceed 248 MMBtu/hr heat input, averaged monthly.~~

(b) NO_x emissions from the Boiler 1 and 2 natural gas fired burners shall not exceed 200 pounds per million cubic feet (lb/MMCF) of natural gas.

Removal of the heat input limit also requires adjustment of the particulate limit pursuant to 326 IAC 6-2. 326 IAC 6-2-3(a) defines the total source maximum operating capacity, Q, as "the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used."

Previous operation permits and the draft Title V permit used the limited capacity for each boiler, 248 MMBtu/hr, in calculating the allowable particulate matter emission rate for Boilers 1 and 2. Because this limit has been removed, the particulate matter emission limit has been adjusted using the nameplate capacities, 281 MMBtu/hr for Boiler 1 and 274 MMBtu/hr for Boiler 2. These capacities are described in the Part 70 permit as the maximum capacities. The condition has been revised as follows:

D.1.2 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from Boiler 1 and Boiler 2 shall not exceed ~~0.7~~ **0.64** pound per million BTU heat input, based on the following equation:

$$Pt = \frac{(C)(a)(h)}{76.5\,(Q^{0.75})\,(N^{0.25})}$$

Where: C = 50 micrograms per cubic meter (μ/m^3)

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input.

N = Number of stacks in fuel burning operation.

a = 0.67

h = Stack height in feet.

For Boilers 1 and 2, Q = ~~496~~ **555** MMBtu/hr, N = 2, and h = 200 feet. ~~Q is 496 because the maximum operating capacity rating is 248 MMBtu/hr each for Boilers 1 and 2.~~

Due to the revisions made to Condition D.1.1, the Record Keeping Requirements condition (Condition D.1.17) and the Reporting Requirements condition have also been revised, and a Quarterly Report Form has been added to the permit:

D.1.17 Record Keeping Requirements

(a) To document compliance with Condition D.1.1, ~~pursuant to the Exemption Qualification EQ 157-9990-00055, issued August 27, 1998, and Amendment A 157-10100-00055, issued September 15, 1998,~~ the Permittee ~~of the modification~~ shall maintain records including the following:

(1) Monthly records of total natural gas ~~heat input~~ **usage** for ~~each boiler~~ **Boilers 1 and 2** ~~(as computed by multiplying the monthly natural gas usage by the natural gas heat content as supplied by the natural gas supplier)~~,

(2) **Documentation of NO_x emission rate for the Boiler 1 and 2 gas burners.** ~~Monthly records of coal heat input for each boiler [as computed by multiplying the monthly quantity of coal combusted (computed by scale readings of coal input to bunkers and estimates of bunker coal content at the beginning and end of each month for each boiler) by the coal heat content (as computed from composite coal samples each month per boiler)],~~

~~(3) Total heat input to each boiler each month (as computed by adding heat input from natural gas combustion and from coal combustion),~~

~~(4) Hours of operation each month for each boiler, and~~

~~(5) Boiler heat input per hour for each boiler each month (as determined by dividing the hours of operation into the total heat input for the month).~~

D.1.18 Reporting Requirements

(a) A quarterly report of opacity exceedances shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A quarterly report of the calendar month average coal sulfur content, coal heat content, and sulfur dioxide emission rate in pounds per million Btus and the total monthly coal consumption shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. [326 IAC 7-2-1(c)(2]

The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) A quarterly report of the natural gas usage for Boilers 1 and 2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

~~(c)~~**(d)** Pursuant to 326 IAC 3-5-7(5), reporting of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

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

Boiler 1 and 2 Natural Gas Usage - Quarterly Report

Source Name: **Purdue University**
Emission Unit Location: **Wade Powerhouse, West Lafayette, IN**
Mailing Address: **401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services,**
West Lafayette, Indiana, 47907-1665
Source Modification No.: **157-10906-00012**
Facility: **Boiler 1 and Boiler 2 - natural gas-fired burners**
Parameter: **natural gas usage**
Limit: **not more than 395 MMCF per 12 consecutive month period**

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 **No deviation occurred in this quarter.**

9 **Deviation/s occurred in this quarter.**
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

Attach a signed certification to complete this report.

Comment 6

D.1.5 Operation Standards

Condition D.1.5, D.1.11, D.2.4, D.2.12, D.3.4 and D.3.10 - These Conditions reference rules pertaining to hazardous waste. Purdue requests that these conditions be removed, as they are not rules enforceable or intended to become enforceable under the Title V permit program under the Clean Air Act. At a minimum, these conditions must be noted as State enforceable only.

Response to Comment 6

OAQ is aware that coal can be treated with a variety of substances, most frequently for dust suppression, sometimes before it is even received at the plant. The addition of large quantities of any substance to the previously permitted fuel could require additional review under air regulations. Also, the evaporation of large quantities of liquid, including boiler cleaning waste, could affect emissions from the boiler.

The burning of hazardous waste could be subject the National Emission Standards for Hazardous Air Pollutants (NESHAP): Standards for Hazardous Waste Combustors, 40 CFR 63 Subpart EEE, once the rule is finalized. Prior to finalization of Subpart EEE, the burning of hazardous waste could make the boiler subject to a case-by-case Section 112(j) MACT determination. However, OAQ has determined that part (b) of the Operation Standards condition and all of the Cleaning Waste Characterization condition can be identified as not federally enforceable pursuant to the Title V permit. The RCRA regulations are federally enforceable if applicable, but enforcement would be taken through another program area.

The Operation Standards and Cleaning Waste Characterization conditions have been revised as shown (the condition numbers have been changed due to the addition of conditions for the Boiler MACT):

D.1.7 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [40 CFR 279] [329 IAC 13]

(a) All coal burned, including coal treated with any additive, shall meet ASTM specifications for classification as coal (ASTM D388).

(b) The burning of hazardous waste, as defined by 40 CFR 261, is prohibited in ~~this facility~~ **these facilities without a Resource Conservation and Recovery Act (RCRA) permit**. Any boiler tube chemical cleaning waste liquids evaporated in the boiler, and any binding agent or used oil combusted shall meet the toxicity characteristic requirements for non-hazardous waste. **These requirements are not federally enforceable pursuant to the Title V permit.**

(c) Any boiler tube chemical cleaning waste liquids evaporated in the boiler shall only contain the cleaning solution and no more than two full volume boiler rinses.

D.1.13 Cleaning Waste Characterization [326 IAC 2-1.1-5(a)(4)] [40 CFR 261]

The Permittee shall use appropriate methodology as identified in 40 CFR Part 261 to characterize all boiler chemical cleaning wastes that will be evaporated, to determine compliance with the Operation Standards condition in this D section. **This condition is not federally enforceable pursuant to the Title V permit.**

D.2.6 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [40 CFR 279] [329 IAC 13]

(a) All coal burned, including coal treated with any additive, shall meet ASTM specifications for classification as coal (ASTM D388).

(b) The burning of hazardous waste, as defined by 40 CFR 261, is prohibited in this facility **without a Resource Conservation and Recovery Act (RCRA) permit**. Any boiler tube chemical cleaning waste liquids evaporated in the boiler, and any binding agent or used oil combusted shall meet the toxicity characteristic requirements for non-hazardous waste. **These requirements are not federally enforceable pursuant to the Title V permit.**

(c) Any boiler tube chemical cleaning waste liquids evaporated in the boiler shall only contain the cleaning solution and no more than two full volume boiler rinses.

D.2.14 Cleaning Waste Characterization [326 IAC 2-1.1-5(a)(4)] [40 CFR 261]

The Permittee shall use appropriate methodology as identified in 40 CFR Part 261 to characterize all boiler chemical cleaning wastes that will be evaporated, to determine compliance with the Operation Standards condition in this D section. **This condition is not federally enforceable pursuant to the Title V permit.**

D.3.6 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [40 CFR 279] [329 IAC 13]

(a) The burning of hazardous waste, as defined by 40 CFR 261, is prohibited in this facility **without a Resource Conservation and Recovery Act (RCRA) permit**. Any boiler tube chemical cleaning waste liquids evaporated in the boiler, and any binding agent or used oil combusted shall meet the toxicity characteristic requirements for non-hazardous waste. **These requirements are not federally enforceable pursuant to the Title V permit.**

(b) Any boiler tube chemical cleaning waste liquids evaporated in the boiler shall only contain the cleaning solution and no more than two full volume boiler rinses.

D.3.12 Cleaning Waste Characterization [326 IAC 2-1.1-5(a)(4)] [40 CFR 261]

The Permittee shall use appropriate methodology as identified in 40 CFR Part 261 to characterize all boiler chemical cleaning wastes that will be evaporated, to determine compliance with the Operation Standards condition in this D section. **This condition is not federally enforceable pursuant to the Title V permit.**

Comment 7

D.1.6 Preventive Maintenance Plan

Condition D.1.6 - Purdue requests that requirements (b) and (c) of this condition (related to preventive maintenance plans for Boilers 1 and 2) be removed (making the wording consistent with the corresponding condition for Boiler 5 in Condition D.2.6). The preventive maintenance provisions contained in 326 IAC 1-6-3 require that the source prepare a preventive maintenance plan for applicable emission units, and does not provide that the Commissioner prescribe such plans.

Response to Comment 7

326 IAC 2-7-5(13) refers back to the Preventive Maintenance Plan described in 326 IAC 1-6-3, which sets out the requirements for:

(1) Identification of the individuals responsible for inspecting, maintaining and repairing the emission control equipment (326 IAC 1-6-3(a)(1)),

(2) The description of the items or conditions in the facility that will be inspected and the inspection schedule for said items or conditions (326 IAC 1-6-3(a)(2)), and

(3) The identification and quantification of the replacement parts for the facility which the Permittee will maintain in inventory for quick replacement (326 IAC 1-6-3(a)(2)).

The particulate emission controls must operate properly in order for the boilers to achieve compliance; therefore, IDEM believes it is reasonable and necessary to require the source to inspect the ESP and multi-cyclone collectors periodically. The detailed requirements for inspecting the ESPs are taken from a US EPA Publication titled “Operation and Maintenance Manual for Electrostatic Precipitators”, which is document number EPA/625/1-85/017. There has been no change to the permit as a result of this comment.

Comment 8

Condition D.1.6(c)(3) - This condition requires that certain ESP components be checked "whenever there is an outage of any nature lasting more than three days...." Purdue believes that these inspections are most efficiently performed during scheduled unit outages. In the event this provision is not removed as requested above, Purdue requests that the first sentence of this condition be reworded to read "ESP TR set components performed at least once per year".

Response to Comment 8

The wording in Condition D.1.6.(c)(3) (now D.1.8) was written in recognition that generating units at commercial power plants are sometimes kept online for two years or more between outages. However, Purdue may conduct the required inspections during a scheduled annual outage. The condition has been revised as follows:

D.1.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

(c)

(3) ESP TR set components, performed ~~whenever there is an outage of any nature lasting more than three days, unless such inspections have been performed within the last six months~~ **at least once per calendar year**. **For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.**

At a minimum, the following inspections shall be performed:

Comment 9

D.1.12 Monitoring: Multiclone

Condition D.1.12(b) - This condition requires that Purdue determine the normal operating range for pressure drop gauges to be installed on multiclone collectors within 100 hours of boiler operation following installation. It will be necessary to examine pressure drops across a wide range of operating conditions in order to determine what the "normal" operating range is for these units. Purdue does not believe that 100 operating hours provides sufficient time for this analysis at various loads. Purdue requests that this requirement be reworded to allow Purdue 90 calendar days from gauge installation to determine the normal operating range.

Response to Comment 9

The hours of operation reported for Boilers 1 and 2 in the Annual Emission Reports for 2000, 2001, and 2002 ranged from 7499 hours to 8084 hours. This indicates extended periods of operation, without frequent startups. Therefore, OAQ has determined that it is appropriate to make the requested change to allow sufficient time to acquire data over a full range of operating conditions.

D.1.14 Monitoring: Multiclone [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(b) Normal operating range will be determined and provided to IDEM within the first ~~one hundred (100) hours of boiler operation after~~ **ninety (90) calendar days following** installation of the pressure drop monitoring equipment.

Comment 10

D.1.13 Electrostatic Precipitator Parametric Monitoring

Condition D.1.13 - This condition requires the measurement of certain electrostatic precipitator operating parameters and establishes normal ranges for these parameters. Purdue does not believe that normal operating ranges for these parameters need to be established in the Title V permit, and suggests that these parameters be maintained in a separate document, such as the compliance response plan.

Response to Comment 10

The ESPs controlling the boilers must operate properly at all times to assure that the boilers maintain continuous compliance with all applicable requirements. The monitoring of the voltage and current levels of the transformer-rectifier (T-R) sets provides an indication of whether the ESP is operating properly. Monitoring of the voltage and current levels can alert the operator to relative changes over a period of time. The operator can use this information to chart trends and determine if the unit is operating within the optimal range as determined by baseline testing of the unit and manufacturer's specifications. A change in a voltage or current level can be an indicator of a variety of conditions within the ESP. Any deviations from the normal operational range of the unit, whether gradual or sudden, could alert the operator that the unit needs maintenance.

In order to assure proper operation of the ESPs, IDEM has included permit conditions requiring the Permittee to monitor the performance of the ESPs by monitoring certain ESP operating parameters once per shift. IDEM has the authority to require such monitoring pursuant to 326 IAC 2-7-5(3) and 326 IAC 2-7-6(1). There has been no change to this condition.

Comment 11

D.1.14 Opacity Readings

Condition D.1.14 - Purdue requests that this condition be reworded to remove the reference to 20% opacity as triggering response steps under its Compliance Response Plan. Purdue is not aware of any correlation of this opacity level to circumstances under which the opacity standard of 40% is exceeded nor to circumstances where its applicable particulate matter emission limit of 0.7 pounds per million Btus would be exceeded. Boilers 1 and 2 regularly experience opacity levels at or above 20%, particularly when pulling ashes or cleaning tubes. In 2003, there were 44 instances where this threshold would have been exceeded. These instances were generally situations where boilers were considered to be operating properly, and no response was appropriate or necessary. Purdue will review COM data and identify appropriate opacity levels that will trigger compliance response steps. Purdue suggests rewording these conditions as follows:

(a) In the event of opacity exceeding levels established as compliance response trigger levels in Purdue's Compliance Response Plan, appropriate response steps shall be taken in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back within normal levels. Examples of expected response steps include, but are not limited to, boiler loads being reduced, adjustment of the flue gas conditioning rate, and ESP T-R sets being returned to service.
(b) Opacity readings in excess of the Compliance Response Plan trigger level but not exceeding the opacity limit for the unit are not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

Response to Comment 11

Purdue University is required pursuant to 326 IAC 3-5 to operate continuous opacity monitors (COM) to measure opacity from the boilers. Pursuant to 326 IAC 5-1, Boilers 1 and 2 are subject to a 40% opacity limit. Pursuant to 326 IAC 2-2, the boilers are also subject to particulate matter emission limits. The particulate matter emission limits and the opacity limits were established completely independently of one another. Therefore, compliance with a 40% opacity limit does not indicate compliance with the applicable particulate matter emissions limit.

Unusually high opacity levels can indicate a boiler upset or a malfunction of the control device. Either of these situations could cause an exceedance of a particulate matter limitation. Therefore, it is appropriate for Purdue to take response steps when the observed opacity is significantly above the levels demonstrated during a compliant stack test.

The condition D.1.14 (now D.1.16) does not establish an opacity limit that is more stringent than the opacity limits established by 326 IAC 5-1. Rather, the condition requires the Permittee to take response steps when the opacity is above the level indicative of normal operating conditions. An opacity reading that is above the level of normal operating conditions but still in compliance with 326 IAC 5-1 requires a response step but is not considered a violation. It is only a violation if the Permittee fails to take any response steps. IDEM has the authority to require such monitoring pursuant to 326 IAC 2-7-5(1) and 326 IAC 2-7-6(1).

Elevated opacity emissions while pulling ashes and blowing tubes are addressed in the Temporary Alternative Opacity Limit. As a first response step, the Permittee could simply note that one of these activities was occurring at the time of the increased emissions. However, in response to the comment, and upon further review of available stack test results for Boiler 1 and 2, the condition has been revised as follows:

D.1.16 Opacity Readings [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) **For Boiler 1:**

(1) In the event of emissions exceeding twenty-five percent (25%) average opacity for three (3) consecutive six (6) minute averaging periods, appropriate response steps shall be taken in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back below twenty-five percent (25%). Examples of expected response steps include, but are not limited to, boiler loads being reduced, adjustment of flue gas conditioning rate, and ESP T-R sets being returned to service.

(2) Opacity readings in excess of twenty-five percent (25%) but not exceeding the opacity limit for the unit are not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) For Boiler 2:

(1) In the event of emissions exceeding twenty percent (20**%**)~~%~~ average opacity for three (3) consecutive six (6) minute averaging periods, appropriate response steps shall be taken in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back below twenty percent (20%). Examples of expected response steps include, but are not limited to, boiler loads being reduced, adjustment of flue gas conditioning rate, and ESP T-R sets being returned to service.

~~(b)~~**(2)** Opacity readings in excess of twenty percent (20%) but not exceeding the opacity limit for the unit are not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(c) Periods of elevated opacity that are subject to a Temporary Alternative Opacity Limitation (TAOL) when building a new fire in a boiler, shutting down a boiler, removing ashes from the fuel bed or furnace in a boiler, or blowing tubes, need not be included in the averaging periods for (a) and (b) of this condition.

Comment 12

D.2.14 Baghouse Inspections

Condition D.2.14(a) - This condition requires that an inspection be performed "each calendar quarter of all bags controlling particulate emissions from Boiler 5". Due to elevated temperatures within the compartments of the baghouse, it is difficult to perform internal inspections of the baghouse for Boiler 5. In order for inspections of this nature to be safely performed, baghouse compartments would have to be cooled to allow personnel to enter for such inspections. Purdue believes that there are several mechanisms, including opacity monitors and pressure drop gauges, that will provide a much better indicator of bag problems than visual inspections. Purdue requests that this condition be revised to require such inspections once per year, rather than once per quarter.

Response to Comment 12

Due to the special circumstances detailed in the comment, the condition has been revised as shown. The wording "at least" was also added to clarify that it would not be a permit violation if the bags were inspected more than once in a year.

D.2.16 Baghouse Inspections [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) An inspection shall be performed **at least once** per calendar ~~quarter~~ **year** of all bags controlling particulate emissions from Boiler 5. **For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.** Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

Comment 13

D.2.18 Reporting Requirements

Condition D.2.18 - Paragraph (a) of this section requires the submission of quarterly reports that contain information on continuous monitoring data as outlined elsewhere in the permit. Paragraph (b) requires the submission of a separate "excess emissions and monitoring system performance report" on a semiannual basis that contains information required under 40 CFR 60.7(c). This includes information on the magnitude and time periods of excess emissions, information on excess emissions associated with startups, shutdowns, and malfunctions, and the date and time of periods during which any continuous monitoring equipment was not in operation. This information is currently provided in quarterly reports filed by Purdue. Purdue does not believe it is necessary to file a separate semiannual report when the same information is already being supplied quarterly. Purdue suggests that paragraph (b) be removed entirely or reworded to clarify that quarterly reports required under paragraph (a) satisfy the requirements of 40 CFR 60.7(c). In addition, Purdue wishes to clarify which portions, if any, of information provided to IDEM as a part of its quarterly reports must also be reported to EPA. Purdue's current permit for Boiler 5 requires that quarterly reports be provided to IDEM, and does not require a

separate submission to EPA. It is not clear to Purdue if EPA has delegated to Indiana the authority to receive reports on its behalf as provided under 40 CFR 60.4(b), or whether all or portions of these reports must be provided to EPA.

Response to Comment 13

The July 16, 1984, Federal Register included full delegation to the State of Indiana for NSPS and NESHAPs for which the State has promulgated appropriate regulations and subsequently notified the Regional Administrator, and partial delegation to the State of Indiana for new NSPS and NESHAPS pollutants and source categories and for amendments to existing NSPS and NESHAPS which the State of Indiana has not promulgated regulations or amendments. For all NSPS and NESHAPS, the delegation includes administrative responsibilities with respect to notifications and record keeping.

Therefore, the reports required by NSPS Subpart Db do not need to be submitted to EPA. The NSPS reporting requirements can be met by combining the reports required for 40 CFR 60 with quarterly reports submitted to document compliance with PSD and State reporting requirements, provided that all state and federal reporting requirements are met. For clarity, each report submitted should state precisely which reporting requirements are satisfied by that report.

The Permittee does need to be aware that the demonstration of compliance with the PSD block 24 hour average sulfur dioxide emission limitation must be made separately from the demonstration of compliance with the NSPS sulfur dioxide emission limits, fuel oil sulfur limits, and/or percent reduction requirements. This is because the SO_2 reporting requirement from the PSD permit allows excess 24 hour average emission rates due to startup and shutdown to be excluded from compliance determinations to the extent that they represent operation in a manner consistent with good air pollution control practice for minimizing emissions and are unavoidable. The NSPS sulfur dioxide emission limits and percent reduction requirements under 40 CFR 60.42b apply at all times, including periods of startup, shutdown, and malfunction. Therefore, these reporting requirements cannot be completely satisfied using the same set of computations, unless the Permittee chooses not to exclude startup and shutdown emissions when determining compliance with the PSD SO_2 limit.

Parts (a) and (b) of Condition D.2.18 (now D.2.20) have been revised as shown:

D.2.20 Reporting Requirements

(a) A quarterly report of opacity exceedances and a quarterly summary of the information to document compliance with Conditions D.2.1, D.2.3, D.2.10, D.2.11, and D.2.12 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Pursuant to Condition D.2.10(c) regarding the block 24 hour average SO_2 emission limitation, the quarterly report for SO_2 shall explain whether any excess 24 hour average emission rates due to startup and shutdown were excluded from the compliance determination.

(b) Pursuant to 40 CFR 60.49b, excess emissions and monitoring system performance (MSP) reports shall be submitted to the administrator semi-annually for each six month period in the calendar year. All semiannual reports shall be postmarked by the 30th day following the end of each six-month period. Each excess emission and MSP report shall include the information required in 40 CFR 60.7(c). **The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).** ~~These reports shall be submitted to:~~

If the Permittee elects to combine the excess emission and MSP reports with the quarterly reports required under part (a) of this condition, the reports submitted

pursuant to (a) must also include all information required in 40 CFR 60.7(c), and each report must state precisely which state and federal requirements are satisfied by the report.

(c) All reports submitted pursuant to this condition shall be submitted to:

~~U.S. Environmental Protection Agency~~
~~Director, Air and Radiation Division~~
~~77 West Jackson Boulevard~~
~~Chicago, IL 60604-3590~~

~~and~~

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

~~The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~

~~(c)~~**(d)** Pursuant to 326 IAC 3-5-7(5), reporting of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

Comment 14

D.3.1 New Source Performance Standard (NSPS)

Condition D.3.1(d)(3) - This condition outlines procedures for determining compliance with NOx limits when "combusting different fossil fuels simultaneously". Purdue notes that Boiler 3 is not capable of co-firing multiple fuels. As a consequence, this condition may be deleted.

Response to Comment 14

Because different fuels cannot be combusted simultaneously in Boiler 3, the condition has been revised as follows:

D.3.1 New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart D]

(d)

~~(3) When combusting different fossil fuels simultaneously, the applicable NO_x limit shall be determined using the formula in 40 CFR 60.44(b).~~

Comment 15

D.3.8 Continuous Emissions Monitoring

Condition D.3.8 - Paragraph (b) provides that the Administrator may approve alternative monitoring techniques, however paragraph (d) states that "nothing in this permit shall excuse the permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to ...." Purdue requests that Condition D.3.8(d) be clarified by adding the phrase "Notwithstanding provisions of paragraph (b) regarding the ability to obtain approval for alternate testing procedures," to the beginning of paragraph (d).

Response to Comment 15

The full wording of the cited portions of the condition state:

> (b) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of 40 CFR 60 including, but not limited to, alternative monitoring requirements when the affected facility is infrequently operated. [40 CFR 60.13(i)]
>
> "Administrator" means the Administrator of the Environmental Protection Agency or his authorized representative. [40 CFR 60.2]
>
> (d) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5, 326 IAC 10-4, 40 CFR 60, or 40 CFR 75.

The alternative monitoring provisions of 40 CFR 60 are not relevant to the continuous emission monitoring requirements of 326 IAC 10-4 and 40 CFR 75. 326 IAC 3-5(b)(1) states that the rule applies to "Any facility required to perform continuous monitoring under 326 IAC 12, which incorporates by reference the requirements of 40 CFR 60....". If the Administrator approves an alternative monitoring requirement in lieu of a continuous emission monitoring requirement of 40 CFR 60, then the standard NSPS CEM requirement no longer applies to the emission unit. Therefore, the requested wording is unnecessary. There has been no change to this condition.

Comment 16

D.4.13 RotoClone Inspections

Condition D.4.13 - Purdue requests that the phrase "when Coal Segment 1 or 2 is in operation" be added to the end of the first sentence to clarify that inspections are not required if the unit has not been in operation. In addition, Purdue requests that the requirement to perform quarterly inspections of the RotoClones be revised to require such inspections annually. Purdue believes that there is little reason to perform RotoClone inspections on a quarterly frequency.

Response to Comment 16

The OAQ believes quarterly inspections are necessary to ensure that the RotoClones are operating properly to ensure continuous compliance. The purpose of this condition is to require response steps be taken if a RotoClone is found to need maintenance or repair, not to indicate noncompliance with 326 IAC 6-3. Properly operating the air pollution controls that are already in place is generally adequate to demonstrate compliance with 326 IAC 6-3 in lieu of a stack test and also assures compliance with applicable rules limiting fugitive dust, opacity, and (when necessary) Potential to Emit.

The RotoClones are used by both COAL Segment 1 and COAL Segment 2 when feeding coal to the bunkers for Boilers 1 and 2. Based on the hours of operation reported in the Annual Emission Reports for Purdue, both of Boilers 1 and 2 are usually operated at least 85% of the time each year. Therefore, the RotoClones are used regularly every quarter.

If the compliance monitoring was linked to the actual operation of each Segment as suggested, then the Permittee would have to keep daily records of the operation of COAL Segments 1 and 2. However, there has been no change as a result of this comment.

Comment 17

D.4.14 RotoClone Failure Detection

Condition D.4.14 - This condition stipulates that the process must be shut down immediately in the event of a RotoClone failure. The RotoClones on the coal handling system are arranged such that one unit is still in operation in the event of a failure of the other unit. Purdue requests that this condition be clarified to require process shutdown only in the event of a failure of both RotoClone collectors.

Response to Comment 17

Following the formal comment period, Purdue confirmed that there is only one RotoClone for each of the Boiler 1 and Boiler 2 coal bunkers. The RotoClones are each dedicated to a bunker. Therefore, there has been no change to this condition.

Comment 18

D.7.5 Baghouse Parametric Monitoring

Condition D.7.5(a) - Purdue requests that the phrase "into the silo" be added to the end of the first sentence to clarify that pressure drop readings should correspond to instances where the silo is being loaded.

Response to Comment 18

The limestone is only conveyed pneumatically from the truck to the silo. From the silo the limestone is gravity fed into the boiler. Therefore, the condition has been revised as requested:

D.7.5 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the limestone storage silo at least once per shift when limestone is being transferred **into the silo**. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 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- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Comment 19

D.11.2 Preventive Maintenance Plan

Condition D.11.2 - This condition requires a Preventive Maintenance Plan for two portable pumps at the Animal Sciences Research and Education Center. Purdue does not believe that this requirement is necessary due to the level of potential emissions for this unit. A requirement for a Preventive Maintenance Plan was not included in the original Minor Source Modification (SSM #157-15944-00012) for these units.

Response to Comment 19

IDEM does agree that in this specific case, these emission units do not need to have a PMP because there is no preventive maintenance that is needed that would effect emissions. The condition has been removed. The OAQ has also determined that no Compliance Monitoring is needed due the emission

levels and nature of use of these units. Therefore, Condition D.11.4 (Visible Emissions Notations) has also been deleted, subsequent conditions have been renumbered and the Record Keeping Condition and Table of Contents have been revised accordingly.

~~D.11.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]~~

~~A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any emission control devices.~~

Compliance Determination Requirements

D.11.3**2** Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2] [326 IAC 7-1.1-2]

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

~~D.11.4 Visible Emissions Notations~~

~~(a) Pursuant to Minor Source Modification 157-15944-00012, issued October 21, 2002, visible emission notations of the diesel engine exhausts shall be performed once per shift during normal daylight hours when the pump engines are in operation. A trained employee shall record whether emissions are normal or abnormal.~~

~~(b) If abnormal emissions are observed at a diesel engine exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of an abnormal emission that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.~~

~~(c) 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.~~

~~(d) 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.~~

~~(e) 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.~~

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

D.11.5**3** Record Keeping Requirements

(a) To document compliance with the requirements in Conditions D.11.1 and D.11.3**2**, the Permittee shall maintain records of all fuel sampling and analysis data, pursuant to 326 IAC 7-2. Records and shall be complete and sufficient to establish compliance with the SO_2 limit in Condition D.11.1.

~~(c) To document compliance with Condition D.11.4, the Permittee shall maintain records of visible emission notations of the diesel fuel fired engine exhausts.~~

~~(c) To document compliance with Condition D.11.2 the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.~~

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

Comment 20

Technical Support Document (Enforcement Issue) - Paragraph (b) under this heading states "This proposed permit is intended to satisfy the requirements of the construction permit rules". Purdue wishes to clarify for the record that Boiler 3 and the coal handling system have both received proper construction and operating permits. Purdue believes that the correct wording under this section should be "This proposed permit is intended to satisfy the requirements of New Source Performance Standards".

Response to Comment 20

The requirement to comply with the New Source Performance Standards is not just an NSPS requirement. It is more correct to say that the proposed permit is intended to satisfy New Source Review (NSR) requirements.

No change will be made to the TSD. The OAQ prefers that the TSD reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

Upon further review, the IDEM Office of Air Quality (OAQ) has made the following additional changes to the permit (bolded language has been added, the language with a line through it has been deleted). The Table Of Contents has been modified to reflect these changes.

Revision 1

The OAQ Compliance Branch has determined that the Operational Flexibility condition does not apply to NO_X budget trades. The operational flexibility provisions are meant for changes in the actual operation of a plant, not NO_X trades. Inclusion of this information in the TSD Addendum is sufficient to avoid possible misinterpretation of the rule language. There is no need to include wording regarding 326 IAC 10-4 in the Operational Flexibility condition. Therefore, B.20(c) has been revised as follows:

B.20 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in 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 2-7-20(c). ~~The notification requirement per (a)(4) of this condition does not apply to emission trades of NO_x under 326 IAC 10-4.~~

Revision 2

An additional rule cite has been added to the title line of the Inspection and Entry condition, and the wording has been corrected to clarify that representatives of both OAQ and U.S. EPA do not have to be present to enter the site.

B.21 Inspection and Entry [326 IAC 2-7-6] [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, ~~and~~ U.S. EPA, or an authorized representative to perform the following:

Revision 3

The Annual Fee Payment condition has been revised due to the reorganization and renaming of the OAQ section that handles billing.

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, ~~I/M &~~ Billing**, Licensing, and Training** Section), to determine the appropriate permit fee.

Revision 4

In accordance with the credible evidence rule (62 Fed. Reg. 8314, Feb 24, 1997); Section 113(a) of the Clean Air Act, 42 U.S. C. § 7413 (a); and a letter from the United States Environmental Protection Agency (USEPA) to IDEM, OAQ dated May 18, 2004, all permits must address the use of credible evidence; otherwise, USEPA will object to the permits. The following language has been incorporated into the permit to address credible evidence:

B.24 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314]

Notwithstanding the conditions of this permit that state specific methods that may be used to demonstrate compliance with, or a violation of, applicable requirements, any person (including the Permittee) may also use other credible evidence to demonstrate compliance with, or a violation of, any term or condition of this permit.

Revision 5

The Emission Statement condition (C.19) has been revised to reflect recent changes to 326 IAC 2-6. Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). The source also has potential to emit greater than or equal to 2500 tons per year of sulfur dioxide; therefore, an emission statement covering the previous calendar year must be submitted by July 1 annually.

The condition has been revised as follows:

C.19 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

(a) **Pursuant to 326 IAC 2-6-3(a)(1), the** ~~The~~ Permittee shall submit ~~an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received~~ by July 1 of each year ~~and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual~~ **an** emission statement **covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and** shall meet the following requirements:

(1) Indicate estimated actual emissions of ~~criteria~~ **all** pollutants ~~from the source,~~ **listed** in ~~compliance with~~ 326 IAC 2-6**-4(a)** ~~(Emission Reporting)~~;

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant which is used only for purposes of Section 19 of this rule") from the source, for purposes of ~~Part 70~~ fee assessment.

~~(b)~~ The ~~annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission~~ statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

Revision 6

The title line of Condition D.4.8 has been corrected as follows:

D.4.8 Particulate Control [326 IAC 2-7-6(6)]

Revision 7

The title of the OAQ Compliance Branch has been corrected in the Emergency Occurrence Report form:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE ~~DATA~~ BRANCH

Revision 8

The name of the Office of Air Management changed to the Office of Air Quality after the Source Modification for the Black Start Generator was issued in 1999. Also, wording has been added to the reporting form to specify that submittal of the quarterly report for the Black Start Generator does require certification by the Responsible Official. The form has been revised as follows:

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

Fuel Oil-Fired Electric Generator (BIG) Quarterly Report

Attach a signed certification to complete this report.

Revision 9

Federal Rule Applicability

40 CFR 63, Subpart DDDDD

(a) The boilers listed in the Part 70 permit as Insignificant Activities are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD.

The natural gas-fired boilers with heat input equal to or less than ten million Btu per hour are part of the affected source for the small gaseous fuel subcategory, as defined by 40 CFR 63.7575, because they have a rated capacity of less than or equal to 10 million British thermal units per hour heat input. The propane or liquefied petroleum gas, or butane-fired boilers with heat input equal to or less than six million Btu per hour, and the fuel oil-fired boilers with heat input equal to or less than two million Btu per hour, are part of the affected source for the small liquid fuel subcategory, as defined by 40 CFR 63.7575, because they have a rated capacity of less than or equal to 10 million British thermal units per hour heat input. However, pursuant to 40 CFR 63.7506(c), there are no applicable requirements from 40 CFR 63, Subpart DDDDD and 40 CFR 63, Subpart A for the affected sources for the small gaseous fuel subcategory and the small liquid fuel subcategory.

(b) Boilers 1, 2, 3, and 5 are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD. Boilers 1, 2, and 5 comprise one existing affected source for the large solid fuel subcategory, as defined by 40 CFR 63.7506(b), because they meet the criteria in the definition in 40 CFR 63.7575 for the large solid fuel subcategory. Boiler 3 comprises one existing affected source for the large liquid fuel subcategory, as defined by 40 CFR 63.7506(b), because it meets the criteria in the definition in 40 CFR 63.7575 for the large liquid fuel subcategory. The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected sources after the effective date of 40 CFR 63, Subpart DDDDD, except when otherwise specified in 40 CFR 63 Subpart DDDDD. This rule is not yet published in the Federal Register. A copy of the signed, final rule is available at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

(1) This rule has a future compliance date; therefore, the specific details of the rule and how the Permittee will demonstrate compliance for the affected source for the large solid fuel subcategory are not provided in the permit. The Permittee shall submit an application for a significant permit modification nine months prior to the compliance date for the MACT that will specify the option or options for the emission limitations and standards and methods for determining compliance chosen by the Permittee. At that time, IDEM, OAQ will include the specific details of the rule and how the Permittee will demonstrate compliance.

(2) Pursuant to 40 CFR 63.7506(b), the only requirements that apply to the existing affected source for the large liquid fuel subcategory are the initial notification requirements in 40 CFR 63.9(b). The Permittee shall submit an Initial Notification containing the information specified in 40 CFR 63.9(b)(2) not later than 120 days after the effective date of 40 CFR 63, Subpart DDDDD as required by 40 CFR 63.7545(b).

Section 112(j) Maximum Achievable Control Technology (MACT)

(a) The requirements of Section 112(j) of the Clean Air Act (40 CFR Part 63.50 through 63.56) are not applicable to this source because the source does not include any units that belong to one or more source categories affected by the Section 112(j) Maximum Achievable Control Technology (MACT) Hammer date of May 15, 2002.

(b) Purdue submitted a Review Request to OAQ in 2002 for a determination regarding source categories that might be applicable to operations at the university. A copy of the response to that request is included as **Appendix B** to this Addendum. It was determined that there are no applicable categories, other than the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD. Therefore, Purdue is not required to submit a Part 2 Maximum Achievable Control Technology (MACT) Application.

Condition C.23 has been removed from the permit, and conditions have been added to Sections D.1, D.2, and D.3 for 40 CFR 63 Subpart DDDDD. Subsequent condition numbers in those D sections have been revised accordingly.

~~C.23 Application Requirements for Section 112(j) of the Clean Air Act [40 CFR 63.52(e)] [40 CFR 63.56(a)] [40 CFR 63.9(b)] [326 IAC 2-7-12]~~

~~(a) The Permittee shall submit a Part 2 Maximum Achievable Control Technology (MACT) Application in accordance with 40 CFR 63.52(e)(1). The Part 2 MACT Application shall meet the requirements of 40 CFR 63.53(b).~~

~~(b) Notwithstanding paragraph (a), the Permittee is not required to submit a Part 2 MACT Application if the Permittee no longer meets the applicability criteria of 40 CFR 63.50 by the application deadline in 40 CFR 63.52(e)(1). For example, the Permittee would not have to submit a Part 2 MACT Application if, by the application deadline:~~

~~(1) The source is no longer a major source of hazardous air pollutants, as defined in 40 CFR 63.2;~~

~~(2) The source no longer includes one or more units in an affected source category for which the U.S. EPA failed to promulgate an emission standard by May 15, 2002; or~~

~~(3) The MACT standard or standards for the affected source categories included at the source are promulgated.~~

~~(c) Notwithstanding paragraph (a), pursuant to 40 CFR 63.56(a), the Permittee shall comply with an applicable promulgated MACT standard in accordance with the schedule provided in the MACT standard if the MACT standard is promulgated prior to the Part 2 MACT Application deadline or prior to the issuance of permit with a case-by-case Section 112(j) MACT determination. The MACT requirements include the applicable General Provisions requirements of 40 CFR 63, Subpart A. Pursuant to 40 CFR 63.9(b), the Permittee shall submit an initial notification not later than 120 days after the effective date of the MACT, unless the MACT specifies otherwise. The initial notification shall be submitted to:~~

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

~~and~~

~~United States Environmental Protection Agency, Region V
Director, Air and Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604-3590~~

D.1.5 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

(a) The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected sources, as designated by 40 CFR 63.7490(a), except when otherwise specified in 40 CFR 63 Subpart DDDDD. The Permittee must comply with these requirements on and after the effective date of 40 CFR 63, Subpart DDDDD.

(b) Since the applicable requirements associated with the compliance options for the affected source for the large solid fuel subcategory are not included and

specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

D.1.6 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

(a) The affected sources are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD), as of the effective date of 40 CFR 63, Subpart DDDDD. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart DDDDD on and after three years after the effective date of 40 CFR 63, Subpart DDDDD.

(b) The following emissions units comprise the affected source for the large solid fuel subcategory: Boiler 1 and Boiler 2.

(c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected sources.

(d) Since the applicable requirements associated with the compliance options for the affected source for the large solid fuel subcategory are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition for the affected source for the large solid fuel subcategory.

D.1.19 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements [40 CFR 63, Subpart DDDDD]

(a) Pursuant to 40 CFR 63.7545, the Permittee shall submit the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4), and (f)(6), and 63.9(b) through (h) that apply to the affected sources for the large solid fuel subcategory and chosen compliance methods by the dates specified. These notifications include, but are not limited to, the following:

(1) An Initial Notification containing the information specified in 40 CFR 63.9(b)(2) not later than 120 days after the effective date of 40 CFR 63, Subpart DDDDD as required by 40 CFR 63.7545(b).

(2) If required to conduct a performance test, a notification of intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required by 40 CFR 63.7(b)(1) and 40 CFR 63.7545(d).

(3) If required to conduct an initial compliance demonstration as specified in 40 CFR 63.7530(a), a Notification of Compliance Status containing the information required by 40 CFR 63.9(h)(2)(ii) in accordance with 40 CFR 62.7545(e).

(A) For each initial compliance demonstration, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of the performance test and/or other initial compliance demonstrations according to 40 CFR 63.10(d)(2).

(B) The Notification of Compliance Status shall contain the items in 40 CFR 63.7545(e)(1) through (9), as applicable.

(4) If required to use a continuous monitoring system (CMS), notification of a performance evaluation, if required, as specified in 40 CFR 63.9(g), by the date of submission of the notification of intent to conduct a performance test.

(b) The notifications required by paragraph (a) shall be submitted to:

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

The notifications require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.1.20 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12] [326 IAC 2-7-5]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit for the affected source for the large solid fuel subcategory.

(a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart DDDDD, a description of the affected sources and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.

(b) The significant permit modification application shall be submitted no later than nine months prior to the compliance date as specified in 40 CFR 63.7495(b).

(c) The significant permit modification application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

D.2.4 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

(a) The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source, as designated by 40 CFR 63.7490(a), except when otherwise specified in 40 CFR 63 Subpart DDDDD. The Permittee must comply with these requirements on and after the effective date of 40 CFR 63, Subpart DDDDD.

(b) Since the applicable requirements associated with the compliance options for the affected source for the large solid fuel subcategory are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

D.2.5 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

(a) The affected source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD), as of the effective date of 40 CFR 63, Subpart DDDDD. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart DDDDD on and after three years after the effective date of 40 CFR 63, Subpart DDDDD.

(b) The following emissions units comprise the affected source for the large solid fuel subcategory: Boiler 5.

(c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected source.

(d) Since the applicable requirements associated with the compliance options for the affected source for the large solid fuel subcategory are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition for the affected source for the large solid fuel subcategory.

D.2.21 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements [40 CFR 63, Subpart DDDDD]

(a) Pursuant to 40 CFR 63.7545, the Permittee shall submit the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4), and (f)(6), and 63.9(b) through (h) that apply to the affected source for the large solid fuel subcategory and chosen compliance methods by the dates specified. These notifications include, but are not limited to, the following:

(1) An Initial Notification containing the information specified in 40 CFR 63.9(b)(2) not later than 120 days after the effective date of 40 CFR 63, Subpart DDDDD as required by 40 CFR 63.7545(b).

(2) If required to conduct a performance test, a notification of intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required by 40 CFR 63.7(b)(1) and 40 CFR 63.7545(d).

(3) If required to conduct an initial compliance demonstration as specified in 40 CFR 63.7530(a), a Notification of Compliance Status containing the information required by 40 CFR 63.9(h)(2)(ii) in accordance with 40 CFR 62.7545(e).

(A) For each initial compliance demonstration, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of the performance test and/or other initial compliance demonstrations according to 40 CFR 63.10(d)(2).

(B) The Notification of Compliance Status shall contain the items in 40 CFR 63.7545(e)(1) through (9), as applicable.

(4) If required to use a continuous monitoring system (CMS), notification of a performance evaluation, if required, as specified in 40 CFR 63.9(g), by the date of submission of the notification of intent to conduct a performance test.

(b) The notifications required by paragraph (a) shall be submitted to:

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

The notifications require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.2.22 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12] [326 IAC 2-7-5]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit for the affected source for the large solid fuel subcategory.

(a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart DDDDD, a description of the affected sources and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.

(b) The significant permit modification application shall be submitted no later than nine months prior to the compliance date as specified in 40 CFR 63.7495(b).

(c) The significant permit modification application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

D.3.4 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source, as designated by 40 CFR 63.7506(b). The Permittee must comply with these requirements on and after the effective date of 40 CFR 63, Subpart DDDDD.

D.3.5 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

(a) The affected source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD), as of the effective date of 40 CFR 63, Subpart DDDDD. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart DDDDD on and after three years after the effective date of 40 CFR 63, Subpart DDDDD.

(b) The following emissions units comprise the affected source for the large liquid fuel subcategory: Boiler 3.

(c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected sources.

D.3.15 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements [40 CFR 63, Subpart DDDDD]

(a) Pursuant to 40 CFR 63.7545(a) and 40 CFR 63.7506(b), the Permittee shall submit an Initial Notification containing the information specified in 40 CFR 63.9(b)(2) not later than 120 days after the effective date of 40 CFR 63, Subpart DDDDD as required by 40 CFR 63.7545(b).

(b) The notification required by paragraph (a) shall be submitted to:

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

The notification requires the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

EPA Comments

On June 25, 2004, Genevieve Damico of U.S. EPA Region 5 submitted the following comments on the proposed Part 70 permit.

EPA Comment 1

Section D.2.1.c is an emission limit for CO. I didn't see a compliance methodology in the permit. How will the permittee demonstrate compliance with the emission limit?

Response

Carbon monoxide (CO) has been added to the stack testing requirements for Boiler 5 in response to this comment. Condition D.2.9 has been revised as follows:

D.2.9 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

By December 31 of the second calendar year following the most recent stack test, or within 180 days after issuance of this permit, whichever is later, compliance with the Boiler 5 PM limitation in Conditions D.2.1**(b)** and D.2.2(b)(1) **and the CO limitation in Condition D.2.1(c)** shall be determined by ~~a~~ performance stack ~~test~~ **tests** conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

EPA Comment 2

Is the degreaser in D.12 subject to Subpart T?

Response

The only degreasing operations in Section D.12 are an insignificant activity "Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6". 326 IAC 20-6 (Halogenated Solvent Cleaning) includes the State's incorporation by reference of 40 CFR 63 Subpart T. Therefore, the degreasing operations included in the Part 70 permit, by definition, are not subject to Subpart T. There is no change to the permit in response to this comment.

EPA Comment 3

In the addendum to the TSD under comment 5, I am curious about the authority IDEM has to change this permit language. Was the original synthetic minor limit part of an existing preconstruction permit? Was it part of a rule? If so, how can Title V be used to change the underlying applicable requirement?

Response

The 248 MMBtu/hr heat input limit for each of Boilers 1 and 2 first appeared in state-issued Operation Permits. The reason for the limit is explained in the Response to Comment 5 in this Addendum. The 70 MMBtu/hr natural gas usage limit only appeared in the 1998 Exemption Qualification and its Amendment. None of these prior approvals were federally enforceable. No preconstruction approvals were issued before Boilers 1 and 2 began operation in the 1960's. The Exemption Qualification was a state-only preconstruction approval that used the previous heat input limit and the gas-only heat input limit with the intention of limiting the increase in NO_X emissions attributable to the installation of the gas burners. There was no underlying requirement for either heat input limit, other than the need to limit the NO_X PTE increase below 40 tons per year so that PSD requirements would not apply. The revised Condition D.1.1 more effectively limits the NO_X PTE from the added natural-gas fired burners. There has been no change to the permit in response to this comment.

EPA Comment 4

Under comment 12 of the addendum to the TSD, the baghouse inspections are reduced from quarterly to annually. What is the authority to change this frequency?

Response

There was previously no baghouse inspection requirement for the Boiler 5 baghouse. This is a new compliance monitoring requirement established in the Part 70 permit. The frequency of inspection for baghouses is generally quarterly; however, that standard is most frequently used for baghouses on emission units without a continuous opacity monitor (COM). Due to the use of a COM system on Boiler 5, and the need to shut the boiler down to cool the exhaust system components before each baghouse inspection, the OAQ has determined that annual inspections are appropriate for this particular situation. There has been no change to the permit in response to this comment.

EPA Comment 5

In the TSD in the Federal Applicability Section I noticed a non-applicability determination for boilers 1 and 2. Where this non-applicability determination is not in the permit and, therefore, isn't given a permit shield this situation has raised a number of concerns through enforcement because it is part of permit documentation. Specifically non-applicability determinations based on construction dates should be removed because the construction dates aren't the only way to trigger the rule applicability. The source could modify and trigger the rule. To make a thorough applicability determination IDEM would need to review all modifications the source has made since it constructed to determine that the rule was not triggered.

Response

The non-applicability determinations stated in the Technical Support Document (TSD) are intended to explain why requirements that might seem to possibly be applicable are not included in the Part 70 permit. The determinations were based primarily on the information provided in the Part 70 application, with additional information obtained from the IDEM files including documents such as previous air permit applications and inspection reports. If an applicant requests that a non-applicability determination be included in the actual permit to have a permit shield for those provisions, then the OAQ requests more extensive documentation of construction times and any additional work performed on the included emission units.

As noted in the comment, the determinations included in the Purdue University TSD do not provide a permit shield. There has been no change in response to this comment.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit

Source Background and Description

Source Name:	Purdue University
Source Location:	401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
County:	Tippecanoe
SIC Code:	8221
Operation Permit No.:	T157-7340-00012
Permit Reviewer:	Vickie Cordell

The Office of Air Quality (OAQ) has reviewed a Part 70 permit application from Purdue University, relating to the operation of a university, including a utility plant and service operations.

This Part 70 permit contains provisions intended to satisfy the requirements of the construction permit rules.

Combined Source

The Title V permit for Purdue University includes facilities located on the main campus, and also includes facilities with regulated air emissions located at research farms in the vicinity of 5675 West, 600 North, West Lafayette, Indiana, for the Animal Sciences Research and Education Center.

Permitted Emission Units and Pollution Control Equipment

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

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a maximum capacity of 281 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 01. Boiler 1 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods. Boiler 1 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X) and a continuous opacity monitor (COM).

(b) One (1) spreader stoker coal fired boiler, identified as Boiler 2, with installation completed in 1967, with a maximum capacity of 274 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 02. Boiler 2 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods. Boiler 2 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X) and a continuous opacity monitor (COM).

(c) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation started in 1989 and completed in 1991, with a design capacity of 279 MMBtu/hr, with a baghouse for particulate matter control and limestone injection for sulfur dioxide control, combusting natural gas for ignition, exhausting to stack WADE 05. Boiler 5 has continuous emissions monitors (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

(d) One (1) natural gas and No. 2 fuel oil fired boiler, identified as Boiler 3, with installation started in 1973 or 1974 and completed in 1974, with a maximum capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_x).

(e) One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a maximum capacity of 110 tons/hr, including: truck unloading station with two (2) hoppers; outdoor coal storage piles; two (2) vibratory feeders; one (1) underground belt conveyor; and one (1) bucket elevator terminating at the top of Wade Power House. Coal is fed to the bunkers for Boilers 1 and 2 with emissions controlled by RotoClones, exhausting to stacks CB1 and CB2, and to the precrusher ahead of the outdoor storage silo for Boiler 5. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

(f) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996 and 1997, with a maximum capacity of 150 tons/hr, including: truck unloading station with two (2) hoppers, equipped with a magnetic separator, with emissions controlled by a baghouse exhausting to stack CV1; outdoor coal storage piles; two (2) vibratory feeders; one (1) totally enclosed tubular conveyor identified as BC-1; one (1) transfer enclosure with one (1) coal sampler, with emissions controlled by a baghouse exhausting to stack CV2; and one (1) totally enclosed tubular conveyor identified as BC-2 terminating at the top of Wade Power House, with emissions controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boilers 1 and 2, and to the precrusher ahead of the outdoor storage silo for Boiler 5.

(g) One (1) coal preparation system for Boiler 5, with installation started in 1989 or 1990 and completed in 1991, with a maximum capacity of 12.68 tons/hr, including: one (1) enclosed pre-crusher; one (1) coal storage silo (aka coal storage bunker) with a baghouse exhausting to stack CB5; two (2) weigh belt feeders; and two (2) enclosed crushers.

(h) One (1) pneumatic ash handling system for fly ash and bottom ash from Boilers 1 and 2, identified as ASH Segment 1, with a maximum capacity of 14 tons per hour, installed in approximately 1960 and modified in 2002. Ash/particulate matter collected from the primary, secondary and tertiary (baghouse) collection units is transferred to the existing ash silo. Ash accumulated in this silo is removed via a water mixer into trucks. Particulate matter that passes through the tertiary (baghouse) filter is exhausted to stack ASH1 while air from the ash silo is directed to a final filter before exhausting to stack AB1. Ash/particulate matter is transported through the system by an electric vacuum pump.

(i) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 5, identified as ASH Segment 2, installed in 1991 and modified in 2002, exhausting to stacks ASH5A and ASH5B, with a maximum capacity of 20 tons/hr, with dust from ash transfer to the storage silo controlled by primary and secondary separator with tertiary baghouse filter. Ash is transferred from the silo to trucks at a maximum capacity of 300 tons/hr; dust is controlled by water mix, or by use of a telescoping spout with air displaced from the truck directed through a “filter module” with five canister filters which exhaust to the atmosphere though a vent, ASH 5C.

(j) Material handling for the limestone injection system for Boiler 5, including pneumatic conveyance from truck to bulk storage in a silo outside or to a "day bin" inside the plant at an offload rate of approximately 12.5 tons per hour; gravity fed from day bin into the boiler. Particulate emissions are controlled by a baghouse on the silo and filter cartridges on the day bin. The feed rate of limestone to the boiler varies depending on the sulfur content of the coal being fired; the average feed rate is 1 ton per hour, and the maximum rate is approximately 5 tons/hour.

(k) One (1) 6.5 MMBtu/hr natural gas fired dual chamber animal carcass incinerator, identified as ADDL, installed in 1991, with an 800 lb/hr waste capacity, exhausting to stack PUADDL1.

(l) One (1) 17.7 MMBtu/hr no. 2 fuel oil fired Black Start electric generator, identified as BSG, installed in 1999 or 2000, exhausting through stack BSG-1, with a fuel limit of 114,000 gallons per year.

(m) Two (2) portable pumps powered by 350 HP no. 2 diesel fueled engines and mounted on tri-axle trailers, installed in 2002, operated intermittently (approximately 500 hours per year each), used for pumping lagoon material to the spray irrigation system and to transfer material from one lagoon to another.

Insignificant Activities

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

(1) Space heaters, process heaters, or boilers using the following fuels:

(A) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including three (3) natural gas fired Aviation Tech Building Boilers with low-NOx combustion systems, installed in 2000, each with 2.8 MMBtu/hr heat input capacity, identified as AV Tech Boiler 1, AV Tech Boiler 2, and AV Tech Boiler 3.

(B) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.

(C) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) Btu per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight.

(2) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

(3) Combustion source flame safety purging on startup.

(4) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.

(5) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(6) The following VOC and HAP storage containers:

(A) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons.

(B) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

(7) Refractory storage not requiring air pollution control equipment.

(8) Equipment used exclusively for filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(9) Application of oils, greases, lubricants, or other nonvolatile materials applied as temporary protective coatings.

(10) Machining where an aqueous cutting coolant continuously floods the machining interface.

(11) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6.

(12) Cleaners and solvents characterized as follows:

(A) Having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 degrees C (100EF) or;

(B) Having a vapor pressure equal to or less than 0.7 kPA; 5mm Hg; or 0.1 psi measured at 20EC (68EF); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

(13) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

(14) Closed loop heating and cooling systems.

(15) Infrared cure equipment.

(16) Exposure chambers (towers, columns), for curing of ultraviolet inks and ultra-violet coating where heat is the intended discharge.

(17) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

(18) Any operation using aqueous solutions containing less than 1% by weight of VOCs, excluding HAPs.

(19) Water based adhesives that are less than or equal to 5% by volume of VOCs, excluding HAPs.

(20) Noncontact cooling tower systems with forced and induced draft cooling tower system not regulated under a NESHAP.

(21) Quenching operations used with heat treating processes.

(22) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

(23) Heat exchanger cleaning and repair.

(24) Process vessel degreasing and cleaning to prepare for internal repairs.

(25) Stockpiled soils from soil remediation activities that are covered and waiting transportation for disposal.

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

(27) Conveyors as follows:

(A) Covered conveyors for limestone conveying of less than or equal to 7,200 tons per day for sources other than mineral processing plants constructed after August 31, 1983;

(B) Underground conveyors.

(28) Coal bunker and coal scale exhausts and associated dust collector vents.

(29) Asbestos abatement projects regulated by 326 IAC 14-10.

(30) Purging of gas lines and vessels that is related to routing maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

(31) Flue gas conditioning systems and associated chemicals such as the following: sodium sulfate, ammonia, and sulfur trioxide.

(32) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.

(33) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(34) Furnaces used for melting metals other than beryllium with a brim full capacity of less than or equal to 450 cubic inches by volume.

(35) On-site fire and emergency response training approved by the department.

(36) Emergency generators as follows:

(A) Diesel generators not exceeding 1600 horsepower.

(B) Natural gas turbines or reciprocating engines not exceeding 16,000 horsepower.

(37) Other emergency equipment as follows: Stationary fire pumps.

(38) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.

(39) Purge double block and bleed valves.

(40) Filter or coalescer media changeout.

(41) Vents from ash transport systems not operated at positive pressure.

(42) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C).

(43) A laboratory as defined in 326 IAC 2-7-1(21)(D).

(44) Farm operations.

(45) Activities or categories of activities with a combination of HAP emissions not previously identified: any unit emitting greater than 1 pound per day but less than 12.5 pounds per day or 2.5 tons per year of any combination of HAPs:

Avgas storage tanks at the new and old airport fuel farms each emit a combination of Benzene, Toluene, Ethyl Benzene, p-Xyelen, m-Xylene, o-Xylene and Tetraethyl Lead.

(46) Other activities or categories not previously identified with potential, uncontrolled emissions equal to or less than thresholds require listing only: Pb 0.6 ton per year or 3.29 pounds per day, SO_2 5 pounds per hour or 25 pounds per day, NO_x 5 pounds per hour or 25 pounds per day, CO 25 pounds per day, PM 5 pounds per hour or 25 pounds per day, VOC 3 pounds per hour or 15 pounds per day:

(A) One (1) No. 2 fuel oil fired animal carcass incinerator for poultry, installed in 1991 or 1992, with an afterburner and a 100 lb/hr waste capacity, located at the animal sciences farm, 5675 W 600 N, West Lafayette, Indiana;

(B) One (1) No. 2 fuel oil fired animal carcass incinerator for swine, installed in 1991 or 1992, with an afterburner and a 100 lb/hr waste capacity, located at the animal sciences farm, 5675 W 600 N, West Lafayette, Indiana;

(C) One (1) LP gas fired incinerator identified as RAD1, installed in 1984, with primary and secondary chambers and a 250 lb/hr waste capacity, for burning laboratory waste and non-infectious biological material contaminated with low level radioactivity, located at the By-Product Material Storage Building North (BMSN);

(D) One (1) natural gas fired incinerator identified as RAD2, installed in 1996, with an afterburner and a 50 lb/hr waste capacity, for burning laboratory waste and non-infectious biological material contaminated with low level radioactivity, located at the By-Product Material Storage Building North (BMSN);

(C) Aqua–Sol 20/20 Cleaner;

(D) Gasoline storage at Transportation services;

(E) Avjet storage at the new and old airport fuel farms;

(F) Boiler 3 oil storage tank.

Notes: The two (2) Aviation Tech Building Boilers listed in the Title V permit application as natural gas-fired units with fuel oil backup were replaced in 2000 with three (3) natural gas-fired boilers with low-NO_X combustion systems, each with 2.8 MMBtu/hr heat input capacity. These are insignificant units and so are now included in the general Insignificant Activity category of Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour.

The 1.8 MMBtu/hr propane-fired aluminum sweat furnace with a 900 lb/hr capacity, previously Registered at 2750 N. 9th Street, Lafayette, Indiana, is not included in the Part 70 permit because the unit has been permanently removed from service.

Trivial Emission Units and Pollution Control Equipment

The source also consists of the following facilities/units which are trivial activities pursuant to 326 IAC 2-7-1(40)(E), and are exempt from pre-construction approval requirements pursuant to 326 IAC 2-1.1-3(e)(1)(D) because the PTE of VOC is less than ten (10) tons per year:

(a) One (1) service paint booth installed in 2000, identified as PAINT, with filters for particulate control.

(b) Four (4) offset lithographic printing presses, identified as PRINTING.

The service paint booth is used for maintenance coating of a variety of equipment from the campus. The paint booth and the printing presses are used for routine university needs and not for any commercial operations. Therefore, these have been determined to be trivial activities.

Pursuant to 326 IAC 6-3-1(b)(13) (Particulate Emission Limitations for Manufacturing Processes: Applicability), as trivial activities the service paint booth and printing presses are not subject to 326 IAC 6-3.

The emission calculations provided by Purdue University for these facilities are included as **Appendix A** of this Technical Support Document. These operations are not subject to 326 IAC 8-1-6 (Volatile Organic Compound Rules: New Facilities; General Reduction Requirements) because the potential emissions from the paint booth and the potential emissions from the printing presses are both less than 25 tons per year. The emission calculations show that the actual emissions for the paint booth average less than fifteen (15) pounds per day without add-on controls, and that the actual emissions for the printing operations exceed fifteen (15) pounds per day. However, there are no requirements in 326 IAC 8-2 (Surface Coating Emission Limitations) applicable to a maintenance paint booth or to lithographic printing presses.

There are currently no federal or state requirements applicable to the service paint booth or the lithographic printing presses. Therefore, these facilities have not been listed in the Part 70 permit.

Existing Approvals

The source has been constructed or has been operating under the following previous approvals:

Operation Permits 79-09-93-0459, 79-09-93-0460, and 79-09-93-0461 issued June 18, 1990;

Operation Permit 157-00012, issued December 17, 1990;

Construction Permit CP-157-3617, issued July 7, 1994;

Minor Source Modification T 157-10906-00012, issued August 27, 1999; with Administrative Amendment T 157-11347-00012, September 14, 1999;

Minor Permit Mod T 157-15659-00012, issued September 23, 2002;

Minor Source Modification T 157-15944-00012, issued October 21, 2002;

Minor Source Modification T 157-15996-00012, issued February 17, 2003;

Registration dated June 8, 1984, for an incinerator, as amended February 7, 1985;

Registration dated November 26, 1984, for an incinerator;

Registration CP 157-2038 issued June 27, 1991;

Registration CP 157-2100 issued August 16, 1991.

Exemption CP 157-4916 issued December 19, 1995, with Amendment A 157-8261 issued March 26, 1997;

Exemption EQ 157-9990, issued August 27, 1998, with Amendment A 157-10100 issued September 15, 1998; and

Exemption EX 157-17737-00012, issued July 3, 2003.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

(a) The following terms and conditions from previous approvals have been revised in this Part 70 permit (added wording is shown in bold font, deleted wording is shown in strikeout font):

Boilers 1 and 2

From Construction Permit PC (79) 1680, issued June 6, 1988:

The 24-hour emission limit for sulfur dioxide shall be calculated by using the sulfur content of the coal as presently reported to the OAQ in accordance with 326 IAC ~~3-3-2~~ **3-7-2 or 3-7-3**. The daily coal usage will be calculated by the use of steam production data and an evaporation factor (pounds of steam per pounds of coal). The evaporation factor shall be 8.4 pounds of steam per pound of coal. Purdue University may **request a permit modification to** adjust this ~~figure after review with the OAQ~~ **factor** if performance data warrants a review.

Purdue University may at any time submit further modeling data in effort to demonstrate that a higher 24-hour sulfur dioxide emission level from Boilers 1 and 2 will protect the sulfur dioxide air quality standards using procedures acceptable to the OAQ. The OAQ, after appropriate review, ~~will~~ **may** adjust the 24-hour sulfur dioxide limit if the air quality analysis supports an adjusted level.

Reasons for revisions: 326 IAC 3-3-2 was repealed in 1998; the current coal sampling and analysis requirements are found in 326 IAC 3-7-2 and 3-7-3. Any adjustment to the evaporation factor must be approved by IDEM, OAQ; such approval is not automatic.

Boiler 5

From Construction Permit PC (79) 1680, issued June 6, 1988:

~~That an ambient air monitoring program shall be conducted for sulfur dioxide. The program, including the monitoring site, the equipment and quality assurance program must be approved bythe Office of Air Management upon startup. This program shall be implemented no later than the start of operation of the new boiler and shall be continued for a minimum period of one year after the completion of all required performance tests. After the one year period, approval must be obtained from the Commissioner prior to discontinuance of this ambient monitoring.~~

Reason for revision: Purdue collected twenty-one months of monitoring data demonstrating that ambient SO_2 levels complied with the National Ambient Air Quality Standards (NAAQS) by a wide margin. IDEM issued a letter on April 13, 1993, allowing the discontinuation of ambient monitoring.

Compliance with the heat input limit shall be determined on a 30-day rolling weighted average basis.

Reason for revision: PC (79) 1680 established a heat input limit for Boiler 5 but did not specific a basis for determining compliance. Unless otherwise specified in a state or federal regulation or a PSD permit, coal-fired boilers are generally required to demonstrate compliance on a 30-day rolling weighted average. This is the compliance basis that Purdue and OAQ Compliance

staff have consistently used for the Boiler 5 heat input limit. Therefore, this has been stated in the Part 70 permit for clarity.

Coal Handling and Processing

From Construction Permit CP 157-3617, issued July 7, 1994:

PSD Minor Limit [326 IAC 2-2-1]

(a) In order to make the requirements of 326 IAC 2-2-1(x) and 326 IAC 2-2-1(jj) (PSD Requirements) not applicable to COAL Segment 2, the emissions from the coal storage and handling equipment included in COAL Segment 2 shall be limited to less than twenty-five (25) tons of particulate matter (PM) per twelve (12) consecutive month period and less than fifteen (15) tons of PM_{10} per twelve (12) consecutive month period. Compliance with these limits shall be determined at the end of each month.

(b) ~~That pursuant~~ Pursuant to ~~326 IAC 6-3~~ **Construction Permit CP 157-3617**, ~~emission of particulate matter~~ **emissions from the coal storage and handling equipment included in COAL Segment 2 shall be limited as follows:**

(1) Particulate matter (PM) emissions shall not exceed 5.7 pounds per hour.

(2) PM_{10} emissions shall not exceed 3.4 pounds per hour.

~~(2)~~**(3)** ~~That all~~ **All** three baghouses **(CV1, CV2, and CV3) shall** remain operational at all times **that the associated coal processing or conveyors are in use**. ~~Pursuant to 326 IAC 1-6-5, a record of all baghouse malfunctions which result in violations of Air Pollution Control Board Rules shall be kept for a period of three (3) years and made available upon request to the Office of Air Management.~~

Reasons for revisions: CP 157-3617 limited the PM emissions from the additional facilities below 25 tons per year (5.7 pounds per hour x 5,680 hours/year x 1 ton/2,000 pounds = 24.97 TPY). The rule cited, 326 IAC 6-3, was incorrect; the Technical Support Document for CP 157-3617 explained that the limit of 5.7 pounds per hour was needed to limit PM emissions below 25 tons per year and referenced 326 IAC 2-2. The PM_{10} must also be limited or the COAL Segment 2 facilities would be subject to PSD requirements. The Part 70 permit also clarifies that Construction Permit CP 157-3617 limited the emissions only from the new coal conveying and receiving equipment identified as COAL Segment 2. Part 70 requires that records be maintained for five (5) years. The general record keeping requirements are included in section C of the Title V permit.

Ash Handling for Boilers 1 and 2

From Minor Source Mod 157-15659-00012, issued September 23, 2002:

~~Particulate Emission Limitations to Avoid PSD [326 IAC 2-7-10.5(5)(C)]~~

PSD Minor Limit [326 IAC 2-2-1]

~~(a) Pursuant to 326 IAC 2-7-10.5(5)(C) (Source Modifications), modifications for which the potential to emit is limited to less than 25 TPY of any regulated air pollutant other than hazardous air pollutants shall comply by following these constraints:~~

~~(C) Using a particulate air pollution control device as follows:~~

~~(i) Achieving and maintaining at least ninety-nine percent (99%) efficiency.~~

~~(ii) Complying with a no visible emission standard.~~

~~(iii) The potential to emit before controls does not exceed major source thresholds for federal permitting programs.~~

~~(iv) Certifying to the commissioner that the control device supplier guarantees that a specific outlet concentration, in conjunction with design air flow, will result in actual emissions less than 25 TPY of PM or 15 TPY of PM_{10}.~~

~~(b)~~**(a)** ~~Pursuant to 326 IAC 2-2-1(w)~~ **In order to make the requirements of 326 IAC 2-2-1(x) and 326 IAC 2-2-1(jj)** (PSD Requirements) **not applicable to the ash handling system identified as Ash Segment 1,** the **particulate matter (PM)** emissions from ~~this modification~~ **Ash Segment 1** shall be limited to less than **twenty-five (**25**)** ~~TPY for PM and 15 TPY for PM_{10}~~ **tons per twelve (12) consecutive month period, and the PM_{10} emissions from Ash Segment 1 shall be limited to less than fifteen (15) tons per twelve (12) consecutive month period. Compliance with these limits shall be determined at the end of each month.**

(b) Emissions from the ash handling equipment included in Ash Segment 1 shall be limited as follows:

(1) Particulate matter (PM) emissions shall not exceed 5.7 pounds per hour.

(2) PM_{10} emissions shall not exceed 3.4 pounds per hour.

Reasons for revisions: Minor Source Mod 157-15659-00012 applied 326 IAC 2-7-10.5(d)(5)(C) to limit the PM and PM_{10} emissions below PSD levels. However, there is no way to assure that the control efficiency is maintained at ninety-nine percent (99%) or that the potential to emit before controls does not exceed major source levels because there is no mechanism for measuring the flow rate of the ash and there is no reliable emission factor available for this type of ash handling. Therefore, the condition has been revised to replace the particulate control-based language with pounds per hour limits for PM and PM_{10}. The average measured emissions in stack testing conducted on December 9, 2002, were 0.067 pounds per hour of PM and 0.148 pounds per hour of PM_{10}, well in compliance with the hourly limits.

Black Start Generator

From Minor Source Modification 157-10906-00012, issued August 27, 1999:

Source Modification Limits [326 IAC 2-7-10.5(d)(5)]

(a) Pursuant to 326 IAC 2-7-10.5(d)(5) (Source Modifications), **the potential to emit of nitrogen oxides (NO_X) from the Black Start generator shall be limited to less than 25 tons per year, as follows:**

(1) The ~~the~~ input **of** no. 2 fuel oil to the generator, BSG, shall be limited to less than ~~114,000~~ **113,000** gallons per **twelve (**12**)** consecutive month period. ~~This voluntary fuel limitation limits the potential to emit of nitrogen oxides (NO_x) from this modification to less than 25 tons per year.~~

(2) NO_X emissions shall not exceed 3.2 lb/MMBtu.

(b) Compliance with this limit makes 326 IAC 2-7-10.5(f), (g), and (h) ("Significant Source Modifications") not applicable to this modification.

(c) Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration), ~~40 CFR 52.21,~~ and 326 IAC 2-1.1-4 (Federal Provisions) not applicable to this modification.

Reasons for revisions: The fuel use limit alone does not ensure that NO_X emissions will remain under 25 tons per year. The limit was derived using the AP-42 NO_X emission factor for large diesel-fired generators; therefore, the short-term emissions cannot exceed the emission factor or the fuel use limit is invalid. The fuel limit was lowered based on the heating value for distillate fuel reported in the Part 70 application, as follows:

(138,000 Btu/gal)(1 MMBtu/10^6 Btu)(**113,000** gal/yr)(3.2 lb/MMBtu)(1 ton/2000 lb) = 24.95 tons per year

The fuel limit was not mandatory; however, fuel use cannot legally exceed the limit unless the Permittee first obtains a Significant Source Modification. Therefore, the limit is no longer voluntary. Also, the references to 40 CFR 52.21 have been removed because Indiana's PSD SIP has been approved.

~~Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1]~~

~~(a) Pursuant to 326 IAC 7-1.1-1, the potential sulfur dioxide (SO_2) emissions shall remain below ten (10) pounds per hour.~~

~~(b) Compliance with this limit and with the fuel limit in Condition D.1 makes 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations) and 326 IAC 7-2-1 (Reporting Requirements; Methods to Determine Compliance) not applicable to this modification.~~

~~(c) Any change or modification which may increase potential sulfur dioxide (SO_2) emissions from the generator, BSG, to 10 pounds per hour shall require a source modification pursuant to 326 IAC 2-7-12 and 326 IAC 7-1.1-1 before such change may occur.~~

Reasons for revisions: There is no need for this condition. The spreadsheet included as Appendix A to the Technical Support Document for Minor Source Modification 157-10906-00012 shows that the Potential to Emit of SO_2 for the black start generator is 8.635 pounds per hour.

Portable pumps, located at the Animal Sciences Research and Education Center

Two (2) Portable Pumps used for pumping lagoon material to the spray irrigation system and to transfer material from one lagoon to another. The pumps are powered by ~~300~~ **350** HP Cummins #2 diesel fueled engines and mounted on tri-axle trailers. They will be operated intermittently (approximately 500 hours per year each).

Reason for revision: Minor Source Modification T 157-15944-00012, issued October 21, 2002, described the two portable pumps used at the Animal Sciences Research and Education Center as 300 horsepower each. The application for the source modification specified that the pumps are 350 horsepower each. The calculations for the source modification used the correct capacity, so this is only a descriptive change.

Major Source Determination

From Administrative Amendment 157-11327-00012 to Source Modification 157-10906-00012

Major Source, Section 112 of the Clean Air Act

~~Purdue University is not a major source for hazardous air pollutants (HAPS).~~

The Administrative Amendment erroneously stated that Purdue University is not a major source of HAPs. Purdue is believed to be a major source for HAPs, based on the HAP emission factors for coal combustion.

(b) The following terms and conditions from previous approvals have been determined to be no longer applicable; therefore, they were not incorporated into this Part 70 permit:

(1) All construction conditions from all previously issued permits.

Reason not incorporated: All facilities previously permitted have already been constructed; therefore, the construction conditions are no longer necessary as part of the operating permit. Any facilities that were previously permitted but have not yet been constructed would need new pre-construction approval before beginning construction.

(2) Conditions that existed only in previous operation permits and are not currently required by applicable state or federal requirements.

Enforcement Issue

(a) During the Title V permit review, it was determined that NSPS Subpart D should have been applied to Boiler 3 from the time it began operation. Subpart D was not previously applied to Boiler 3 because the heat input capacity was limited to 248 MMBtu/hr. However, there are no physical restrictions preventing the boiler from operating at its maximum capacity of 286 MMBtu/hr.

In addition, it was determined that NSPS Subpart Y should have been applied to the coal handling system upon the addition of the coal crushers and precrusher for Boiler 5. Coal and ash handling were part of the preconstruction review for Boiler 5, but no conditions for the materials handling were included in the construction permit. The appropriate NSPS requirements have been included in the Part 70 permit.

(b) IDEM is reviewing these matters and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit application for the purposes of this review was received on December 3, 1996. Additional information was received on July 30, 1998; August 4, 1998; August 15, 2003; August 26, 2003; September 4, 2003; September 11, 2003; September 15, 2003; October 10, 2003; and December 18, 2003.

A notice of completeness letter was mailed to the source on December 17, 1996.

Potential to Emit

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

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential Emissions (tons/year)
PM	greater than 100
PM-10	greater than 100
SO_2	greater than 100
VOC	less than 100
CO	greater than 100
NO_X	greater than 100

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential Emissions (tons/year)
HF	greater than 10
HCl	greater than 10
Arsenic	less than 10
Beryllium	less than 10
Cadmium	less than 10
Chromium	less than 10
Formaldehyde	less than 10
Glycol Ethers	less than 10
Lead	less than 10
Manganese	less than 10
MEK	less than 10
Methanol	less than 10
Nickel	less than 10
Toluene	less than 10
TOTAL	greater than 25

(a) The PTE (as defined in 326 IAC 2-1.1-1(16)) of PM-10, SO_2, CO, and NO_X are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(c) Fugitive Emissions
Since this type of operation is one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are counted toward determination of PSD and Emission Offset applicability.)

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2002 IDEM, OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM-10	37
SO_2	2529
VOC	11
CO	300
NO_X	696

Limited Potential to Emit

This existing source is a major stationary source because it is in one of the 28 listed source categories and at least one regulated pollutant is emitted at a rate of 100 tons per year or more. The source would be subject to PSD review for any future significant modifications.

County Attainment Status

The source is located in Tippecanoe County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Tippecanoe County has been designated as attainment or unclassifiable for ozone.

(b) Tippecanoe County has been classified as attainment or unclassifiable for all other criteria pollutants.

Federal Rule Applicability

326 IAC 2-2 (Prevention of Significant Deterioration)

Purdue is considered one of the 28 listed sources for PSD because of fossil fuel boilers (or combinations thereof) totaling more than 250 MMBtu/hour of heat input.

Pursuant to 40 CFR 52.21(i)(4)(vi), the installation of Boiler 5 with the accompanying coal, ash, and limestone handling was exempted from PSD review requirements in PC (79) 1680 because of Purdue's status as a nonprofit educational institution.

40 CFR 72 through 40 CFR 78 (Acid Rain Permit)

The boilers at Purdue University are not affected units subject to the requirements of 326 IAC 21 (Acid Deposition Control) and the Acid Rain Program because Purdue is not an electric utility and none of the boilers serve a generator that produces electricity for sale under contract.

40 CFR 60 (New Source Performance Standards)

Boilers 1 and 2

Boilers 1 and 2 are not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.4, Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971)), because the construction of Boilers 1 and 2 was completed in 1960 and 1967, respectively.

Boiler 3

Boiler 3 is subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60, Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971)), because construction of Boiler 3 began in 1973 or 1974 and it has a heat input rate of 286 MMBtu/hr. These requirements include:

New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart D]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971), emissions from Boiler No. 3 shall not exceed the following:

(a) 0.10 pound PM per million Btu (MMBtu) heat input derived from fossil fuel. [40 CFR 60.42(a)(1)]

(b) For opacity:

(1) Twenty percent (20%) opacity except for one six-minute period per hour of not more than twenty-seven percent (27%) opacity. [40 CFR 60.42(a)(2)]

(2) Pursuant to 40 CFR 60.11(c), the NSPS opacity standard of 40 CFR 60.42(a)(2) shall apply at all times except during periods of startup, shutdown, or malfunction. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions [40 CFR 60.11(d)].

(c) For SO_2:

(1) 0.80 pound SO_2 per million Btu (MMBtu) heat input derived from liquid fossil fuel. [40 CFR 60.43(a)(1)]

(2) When combusting different fossil fuels simultaneously, the applicable SO_2 limit shall be determined using the formula in 40 CFR 60.43(b).

(3) Compliance shall be based on the total heat input form all fossil fuels burned, including gaseous fuels. [40 CFR 60.43(c)]

(d) For NO_X:

(1) 0.20 pound NO_X per million Btu (MMBtu) heat input derived from gaseous fossil fuel. [40 CFR 60.44(a)(1)]

(2) 0.30 pound NO_X per million Btu (MMBtu) heat input derived from liquid fossil fuel. [40 CFR 60.44(a)(2)]

(3) When combusting different fossil fuels simultaneously, the applicable NO_X limit shall be determined using the formula in 40 CFR 60.44(b).

General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to Boiler 3 except when otherwise specified in 40 CFR Part 60, Subpart D.

Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 12] [40 CFR 60, Subpart D] [326 IAC 2-2]

(a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 40 CFR 60.45, continuous emission monitoring systems for Boiler 3 shall be calibrated, maintained, and operated for measuring opacity, NO_X and either O_2 or CO_2, which meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60.45, except as provided in paragraph (b) of 40 CFR 60.45.

(1) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under 40 CFR 60.8. [40 CFR 60.13(b)]

(2) Pursuant to 40 CFR 60.13(e), except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under paragraph (d) of 40 CFR 60.13, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(A) All continuous monitoring systems referenced by paragraph (c) of this section for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(B) All continuous monitoring systems referenced by paragraph (c) of this section for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(3) Excess NO_X emissions for affected facilities using a continuous monitoring system for measuring nitrogen oxides are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of exceed the applicable standards under 40 CFR 60.44. [40 CFR 60.45(g)(3)]

(4) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(b) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of 40 CFR 60 including, but not limited to, alternative monitoring requirements when the affected facility is infrequently operated. [40 CFR 60.13(i)]

"Administrator" means the Administrator of the Environmental Protection Agency or his authorized representative. [40 CFR 60.2]

Note: If the Administrator approves alternative monitoring requirements in lieu of the COM requirements for Boiler 3, then IDEM, OAQ, may require additional PM stack testing and Method 9 opacity readings to demonstrate compliance with 326 IAC 5-1 and 326 IAC 6-2, pursuant to 326 IAC 3-5-1(c)(2)(A)(ii).

Sulfur Dioxide Emissions and Sulfur Content [40 CFR 60.45] [326 IAC 12] [326 IAC 3] [326 IAC 7-2] [326 IAC 7-1.1-2]

(a) Pursuant to 40 CFR 60.45(b)(2), the Permittee shall monitor sulfur dioxide emissions by fuel sampling and analysis.

(b) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed the equivalents of the SO_2 limits specified in 40 CFR 60.43 and 326 IAC 7-1.1-2(a)(3), using a calendar month average.

(c) Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7-4, fuel sampling and analysis data shall be collected as follows:

(1) The Permittee may rely upon vendor analysis of fuel delivered, if accompanied by a vendor certification [326 IAC 3-7-4(b)]; or,

(2) The Permittee shall perform sampling and analysis of fuel oil samples in accordance with 326 IAC 3-7-4(a).

(A) Oil samples shall be collected from the tanker truck load prior to transferring fuel to the storage tank; or

(B) Oil samples shall be collected from the storage tank immediately after each addition of fuel to the tank.

Boiler 5

Boiler 5 is subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.4, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units)), because construction began in 1988 or 1989 and it has a heat input rate of 279 MMBtu/hr. These requirements include:

New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart Db]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) and Construction Permit PC (79) 1680, issued on June 6, 1988, emissions from Boiler 5 shall not exceed the following:

(a) For sulfur dioxide, pursuant to 40 CFR 60.42b, emissions shall not exceed 1.2 pounds per million Btu's (lb/MMBtu) of heat energy input and ten percent (10%) of the potential combustion concentration (ninety percent (90%) removal) when Boiler 5 is firing coal.

For sulfur dioxide, pursuant to 40 CFR 60.42b, no owner or operator of an affected facility that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 10 percent (0.10) of the potential sulfur dioxide emission rate (90 percent reduction) and that contain sulfur dioxide in excess of the emission limit determined according to the following formula:

Es = (Ka Ha+Kb Hb)/(Ha+Hb) where:

Es is the sulfur dioxide emission limit, in ng/J or lb/million Btu heat input,

Ka is 520 ng/J (or 1.2 lb/million Btu),

Kb is 340 ng/J (or 0.80 lb/million Btu),

Ha is the heat input from the combustion of coal, in J (million Btu),

Hb is the heat input from the combustion of oil, in J (million Btu). Only the heat input supplied to Boiler 5 from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat input to the affected facility from exhaust gases from another source, such as gas turbines, internal combustion engines, kilns, etc.

(b) For particulate matter:

(1) Pursuant to 40 CFR 60.43b, no owner or operator of an affected facility which combusts coal or combusts mixtures of coal with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of 0.051 lb/million Btu heat input,

(A) If the affected facility combusts only coal, or

(B) If the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(C) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal, wood, or municipal-type solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum design heat input capacity. [40 CFR 60.43b(e)]

(2) No owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43b(f)]

(c) For nitrogen oxides, pursuant to 40 CFR 60.44b:

(1) No owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO_2) in excess of the following emission limits:

From fluidized bed combustion, not more than 0.60 lb/million Btu (lb/MMBtu) heat input.

(2) Except as provided under paragraphs (k) and (l) of 40 CFR 60.44b, no owner or operator of an affected facility that simultaneously combusts mixtures of coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of a limit determined by the use of the following formula:

$E_n=[(EL_{go}\ H_{go})+(EL_{ro}H_{ro})+(EL_c\ H_c)]/\ (H_{go}+H_{ro}+H_c)$ where:

E_n is the nitrogen oxides emission limit (expressed as NO_2), ng/J (lb/million Btu)

EL_{go} is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu)

H_{go} is the heat input from combustion of natural gas or distillate oil,

EL_{ro} is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil,

H_{ro} is the heat input from combustion of residual oil,

EL_c is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

H_c is the heat input from combustion of coal.

General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to Boiler 5 except when otherwise specified in 40 CFR Part 60, Subpart Db.

NSPS Compliance Provisions [326 IAC 12] [40 CFR 60, Subpart Db]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units):

(a) For sulfur dioxide:

(1) Compliance with the sulfur dioxide emission limits, fuel oil sulfur limits, and/or percent reduction requirements under 40 CFR 60.42b are determined on a 30-day rolling average basis. [40 CFR 60.42b(e)]

(2) The sulfur dioxide emission limits and percent reduction requirements under 40 CFR 60.42b apply at all times, including periods of startup, shutdown, and malfunction. [40 CFR 60.42b(g)] [40 CFR 60.45b(a)]

(3) Compliance with the sulfur dioxide emission limits and percent reduction requirements under 40 CFR 60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for 30 successive steam generating unit operating days, except as provided under 60.42b(d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for sulfur dioxide are calculated to show compliance with the standard. [40 CFR 60.45b(g)]

(4) Except as provided under paragraph (i) of 40 CFR 60.45b, the owner or operator of an affected facility shall use all valid sulfur dioxide emissions data in calculating the percent sulfur dioxide emission rate (% P_s) and the hourly sulfur dioxide emission rate (E_{ho}) under paragraph (c) of 40 CFR 60.45b whether or not the minimum emissions data requirements under 40 CFR 60.46b are achieved. All valid emissions data, including valid sulfur dioxides emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating % P_s and E_{ho} pursuant to paragraph (c) of 40 CFR 60.45b. [40 CFR 60.45b(h)]

(b) For particulate matter:

The particulate matter emission standards and opacity limits under 40 CFR 60.43b apply at all times except during periods of startup, shutdown, or malfunction. [40 CFR 60.46b(a)]

(c) For nitrogen oxide:

(1) The nitrogen oxides emission standards under 40 CFR 60.44b apply at all times including periods of startup, shutdown, or malfunction. [40 CFR 60.44b(h)] [40 CFR 60.46b(a)]

(2) Compliance with the nitrogen oxide emission limits under 40 CFR 60.44b is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]

(3) The owner or operator of an affected facility which combusts coal shall determine compliance with the nitrogen oxides emission standards under 40 CFR 60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days. [40 CFR 60.46b(e)(2)]

Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 12] [40 CFR 60, Subpart Db] [326 IAC 2-2]

(a) Pursuant to Construction Permit PC (79) 1680, issued June 6, 1988; 326 IAC 3-5 (Continuous Monitoring of Emissions); 326 IAC 2-2 (Prevention of Significant Deterioration); and 40 CFR 60 Subpart Db, continuous emission monitoring systems (CEMS) for Boiler 5 shall be calibrated, maintained, and operated for measuring opacity, SO_2, NO_X and either CO_2 or O_2, which meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60.47b and 60.48b.

(b) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(c) For sulfur dioxides:

(1) The use of limestone injection for SO_2 control precludes the use of a CEM system to measure the pre-control SO_2 emission rates. The pre-control SO_2 emission rates and percent reduction shall be determined using daily as-fired fuel sampling and analysis. Pursuant to 40 CFR 60.47b(b), the owner or operator shall determine the average sulfur dioxide emissions and percent reduction by:

(A) Collecting coal or oil samples in an as-fired condition at the inlet to the steam generating unit and analyzing them for sulfur and heat content according to Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average sulfur dioxide input rate, or

(B) Measuring sulfur dioxide according to Method 6B at the inlet or outlet to the sulfur dioxide control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable sulfur dioxide and carbon dioxide measurement train operated at the candidate location and a second similar train operated according to the procedures in section 3.2 and the applicable procedures in section 7 of Performance Specification 2. Method 6B, Method 6A, or a combination of Methods 6 and 3 or 3B or Methods 6C and 3A are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(C) A daily sulfur dioxide emission rate, E_D, shall be determined using the procedure described in Method 6A, section 7.6.2 (Equation 6A-8) and stated in lb/million Btu heat input.

(D) The mean 30-day emission rate is calculated using the daily measured values in lb/million Btu for 30 successive steam generating unit operating days using equation 19-20 of Method 19.

(E) Pursuant to 326 IAC 3-7-5(a), the Permittee shall develop a standard operating procedure (SOP) to be followed for sampling, handling, analysis, quality control, quality assurance, and data reporting of the information collected pursuant to 326 IAC 3-7-2 through 326 IAC 3-7-4. In addition, any revision to the SOP shall be submitted to IDEM, OAQ.

(2) The owner or operator of an affected facility shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator or the reference methods and procedures as described in paragraph (b) of 40 CFR 60.47b. [40 CFR 60.47b(c)]

(3) The 1-hour average sulfur dioxide emission rates measured by the CEMS required by paragraph (a) of 40 CFR 60.47b and required under 40 CFR 60.13(h) is expressed in ng/J or lb/million Btu heat input and is used to calculate the average emission rates under 40 CFR 60.42b. Each 1-hour average sulfur dioxide emission rate must be based on more than 30 minutes of steam generating unit operation and include at least 2 data points with each representing a 15-minute period. Hourly sulfur dioxide emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day. [40 CFR 60.47b(d]

(4) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the CEMS. [40 CFR 60.47b(e)]

(5) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of 40 CFR 60 Appendix B. [40 CFR 60.47b(e)(1)]

(6) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of 40 CFR 60 Appendix F. [40 CFR 60.47b(e)(2)]

(7) For affected facilities combusting coal, alone or in combination with other fuels, the span value of the sulfur dioxide CEMS at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted. [40 CFR 60.47b(e)(3)]

(d) For nitrogen oxides:

(1) The continuous monitoring systems required under paragraph (b) of 40 CFR 60.48b shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]

(2) The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor required by paragraph (b) of 40 CFR 60.48b and required under 40 CFR 60.13(h) shall be expressed in lb/million Btu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(b). At least two (2) data points must be used to calculate each 1-hour average. [40 CFR 60.48b(d)]

(3) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. [40 CFR 60.48b(e)]

(4) For affected facilities combusting coal, the span value for nitrogen oxides is 1,000 PPM. [40 CFR 60.48b(e)(2)]

(5) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days. [40 CFR 60.48b(f)]

(e) For opacity:

(1) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. [40 CFR 60.48b(e)]

(2) For affected facilities combusting coal, the span value for a continuous monitoring system for measuring opacity shall be between 60 and 80 percent. [40 CFR 60.48b(e)(1)

(f) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5, 326 IAC 10-4, 40 CFR 60, or 40 CFR 75.

<u>Coal storage and handling operations for boilers 1, 2, and 5</u>

The Boiler 5 coal preparation system and portions of COAL Segment 2 are subject to the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants) because the coal processing facilities installed in approximately 1990 for Boiler 5 include crushers, and COAL Segment 2 was installed in 1996.

These requirements include:

New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart Y]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart Y (Standards of Performance for Coal Preparation Plants) the exhaust from the following coal processing and handling equipment shall not exhibit opacity greater than or equal to twenty percent (20%) [40 CFR 60.252(c)]:

(a) the conveyors of COAL Segment 2, beginning after the coal storage piles, but not including the conveyor section(s) used solely to feed the bunkers for Boilers 1 and 2; and

(b) the Boiler 5 coal preparation system.

General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the conveyors of COAL Segment 2, beginning after the coal storage piles, but not including the conveyor section(s) used solely to feed the bunkers for Boilers 1 and 2; and to the Boiler 5 coal preparation system, except when otherwise specified in 40 CFR Part 60, Subpart Y.

NSPS Test Methods and Procedures [326 IAC 2-7-6(1), (3), (6)] [326 IAC 2-1.1-11] [40 CFR 60.8] [40 CFR 60.46]

Within 180 days of issuance of this Part 70 permit, the Permittee shall conduct initial performance tests for NSPS Subpart Y. Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in 40 CFR 60.8 and 40 CFR 60.254 unless the Administrator approves an alternative in accordance with 40 CFR 60.8(b). [40 CFR 60.8]

NSPS Compliance Provisions [326 IAC 12] [40 CFR 60, Subpart Y]

Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity. [40 CFR 60.254(b)(2)]

Offset lithographic printing presses

The offset lithographic printing presses are not subject to requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60, Subpart QQ (Standards of Performance for Graphic arts industry: publication rotogravure printing)), because the process is not rotogravure printing.

Oil and gasoline storage tanks

The gasoline and distillate oil storage tanks are not subject to the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart K, (Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and prior to May 19, 1978); and Subpart Ka (Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and prior to July 23, 1984) because all of the tanks were installed prior to 1984. The exact dates of installation are not known; however, Subparts K and Ka specifically exempt Nos. 2 through 6 fuel oils from the definition of Petroleum Liquids.

40 CFR 63 (National Emission Standards for Hazardous Air Pollutants)

Section 112(j)

The requirements of Section 112(j) of the Clean Air Act (40 CFR Part 63.50 through 63.56) are applicable to this source because the source is a major source of HAPs (i.e., the source has the potential to emit 10 tons per year or greater of a single HAP or 25 tons per year or greater of a combination of HAPs) and the source includes one or more units that belong to one or more source categories affected by the Section 112(j) Maximum Achievable Control Technology (MACT) Hammer date of May 15, 2002.

(1) This rule requires the source to:

(A) Submit a Part 1 MACT Application by May 15, 2002; and

(B) Submit a Part 2 MACT Application for each affected source category in accordance with the appropriate Part 2 MACT Application deadline listed in Table 1 to 40 CFR 63, Subpart B for the affected source category.

(2) The Permittee submitted a Part 1 MACT Application on May 14, 2002.

(3) Pursuant to 40 CFR 63.56(a), the Permittee shall comply with an applicable promulgated MACT standard in accordance with the schedule provided in the MACT standard if the MACT standard is promulgated prior to the Part 2 MACT Application deadline or prior to the issuance of a permit with a case-by-case Section 112(j) MACT determination. The MACT requirements include the applicable General Provisions requirements of 40 CFR 63, Subpart A. Pursuant to 40 CFR 63.9(b), the Permittee shall submit an initial notification not later than 120 days after the effective date of the MACT, unless the MACT specifies otherwise. The MACT and the General Provisions of 40 CFR 63, Subpart A will become new applicable requirements, as defined by 326 IAC 2-7-1(6), that must be incorporated into the Part 70 permit. After IDEM, OAQ receives the initial notification, any of the following will occur:

(A) If three or more years remain on the Part 70 permit term at the time the MACT is promulgated, IDEM, OAQ will notify the source that IDEM, OAQ will reopen the permit to include the MACT requirements pursuant to 326 IAC 2-7-9; or

(B) If less than three years remain on the Part 70 permit term at the time the MACT is promulgated, the Permittee must include information regarding the MACT in the renewal application, including the information required in 326 IAC 2-7-4(c); or

(C) The Permittee may submit an application for a significant permit modification under 326 IAC 2-7-12 to incorporate the MACT requirements. The application may include information regarding which portions of the MACT are applicable to the emission units at the source and which compliance options will be followed.

Offset lithographic printing presses

Printing and Publishing Industry NESHAP [40 CFR Part 63, Subpart KK]
Subpart KK is not applicable to the offset lithographic printing presses because the process is not packaging rotogravure, publication rotogravure, or flexographic printing.

Paper and Other Web Coating NESHAP [40 CFR Part 63, Subpart JJJJ]
Subpart JJJJ is not applicable to the offset lithographic printing presses because the process is not web coating.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)
Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration), this source is a major source.

Note: Pursuant to 326 IAC 2-2-2(d), the installation of Boiler 5 was not subject to PSD review in PC (79) 1680 because of Purdue's status as a nonprofit educational institution.

326 IAC 2-6 (Emission Reporting)
This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM-10, SO_2, CO, and NO_X. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity)

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.

326 IAC 10-4 (NO_X Budget Trading Program)

Pursuant to 326 IAC 10-4-2(27) the boilers are considered a "large affected unit" because they commenced operation before January 1, 1997, each has a maximum design heat input greater than two hundred fifty million (250,000,000) Btus per hour and did not serve during 1995 or 1996 a generator producing electricity for sale under a firm contract to the electric grid. Pursuant to 326 IAC 10-4-1(a)(2), a "large affected unit" is a NO_X budget unit. Because this source meets the criteria of having one (1) or more NO_X budget units, it is a NO_X budget source. The Permittee shall be subject to the requirements of this rule. The NO_X budget permit is in section E of the Part 70 permit. The Technical Support Document for the NO_X budget permit is provided as **Appendix B** to this Technical Support Document.

Pursuant to 326 IAC 10-4-12(c), the Permittee installed the appropriate monitoring systems and completed all certification tests as required by 326 IAC 10-4-12(b)(1) through (3) on or before May 1, 2003.

State Rule Applicability - Individual Facilities

Coal-Fired Boilers 1 and 2

326 IAC 2-2 (Heat Input Limitation)

(a) Pursuant to the Exemption Qualification EQ 157-9990-00055, issued August 27, 1998, and Amendment A 157-10100-00055, issued September 15, 1998, and in order to make the requirements of 326 IAC 2-2 (PSD Requirements) not applicable to the addition of natural gas fired burners to the existing Boilers 1 and 2, any increase in the nitrogen oxides (NO_X) emissions attributable to the use of the additional burners shall be limited to less than 40 tons per twelve (12) consecutive month period. Compliance with this limit shall be determined at the end of each month.

(b) The input fuel usage for each boiler (Boiler 1 and Boiler 2) shall be limited as follows:

(1) Natural gas usage per boiler shall not exceed 70 MMBtu/hr heat input, averaged monthly, and

(2) Coal and natural gas usage combined per boiler shall not exceed 248 MMBtu/hr heat input, averaged monthly.

326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from Boiler 1 and Boiler 2 shall not exceed 0.7 pound per million BTU heat input, based on the following equation:

$$Pt = \frac{(C)\,(a)\,(h)}{76.5\,(Q^{0.75})\,(N^{0.25})}$$

Where: C = 50 micrograms per cubic meter (μ/m^3)

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input.

N = Number of stacks in fuel burning operation.

a = 0.67

h = Stack height in feet.

For Boilers 1 and 2, Q = 496 MMBtu/hr, N = 2, and h = 200 feet. Q is 496 because the maximum operating capacity rating is 248 MMBtu/hr each for Boilers 1 and 2.

Note: Pursuant to the definition of Q in 326 IAC 6-2-3, 248 MMBtu/hr is the maximum operating capacity rating for each of Boilers 1 and 2 because the heat input capacity is limited by the operation permit.

326 IAC 2; 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)

(a) Pursuant to Construction Permit PC (79) 1680, issued June 6, 1988, 326 IAC 2-2 (Prevention of Significant Deterioration), and 326 IAC 7-1.1-2, the following conditions became effective upon start-up of Boiler 5:

(1) Sulfur dioxide emissions from Boilers 1 and 2 shall be limited to 5.43 pounds per million Btu's of heat input and to a total of 26.5 tons from both boilers on any calendar day.

(2) The 24-hour emission limit for sulfur dioxide shall be calculated by using the sulfur content of the coal as presently reported to the OAQ in accordance with 326 IAC 3-7-2 or 3-7-3. The daily coal usage will be calculated by the use of steam production data and an evaporation factor (pounds of steam per pounds of coal). The evaporation factor shall be 8.4 pounds of steam per pound of coal. Purdue University may request a permit modification to adjust this factor if performance data warrants a review.

(b) When the daily coal usage is 420 tons or less for these boilers, a daily sulfur dioxide emissions level need not be provided.

(c) The stack height on the existing boilers may be increased to 65 meters without obtaining approval from the IDEM, OAQ.

(d) Purdue University may at any time submit further modeling data in an effort to demonstrate that a higher 24-hour sulfur dioxide emission level from Boilers 1 and 2 will protect the sulfur dioxide air quality standards using procedures acceptable to the OAQ. The OAQ, after appropriate review, may adjust the 24-hour sulfur dioxide limit if the air quality analysis supports an adjusted level.

326 IAC 5-1-3 (Temporary Alternative Opacity Limitations)

(a) Pursuant to 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), the following applies:

(1) When building a new fire in a boiler, or shutting down a boiler, opacity may exceed the 40% opacity limitation established by 326 IAC 5-1-2. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute

averaging period. Opacity in excess of the applicable limit established in 326 IAC 5-1-2 shall not continue for more than two (2) six (6)-minute averaging periods in any twenty-four (24) hour period. [326 IAC 5-1-3(a)]

Operation of the electrostatic precipitator is not required during these times unless necessary to comply with these limits.

(2) When removing ashes from the fuel bed or furnace in a boiler or blowing tubes, opacity may exceed the applicable limit established in 326 IAC 5-1-2 and stated in Section C - Opacity. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period and opacity in excess of the applicable limit shall not continue for more than one (1) six (6)-minute averaging period in any sixty (60) minute period. The averaging periods in excess of the limit set in 326 IAC 5-1-2 shall not be permitted for more than three (3) six (6)-minute averaging periods in a twelve (12) hour period. [326 IAC 5-1-3(b)]

(b) If a facility cannot meet the opacity limitations of 326 IAC 5-1-3(a) or (b), the Permittee may submit a written request to IDEM, OAQ, for a temporary alternative opacity limitation in accordance with 326 IAC 5-1-3(d). The Permittee must demonstrate that the alternative limit is needed and justifiable.

326 IAC 3-5 (Continuous Emissions Monitoring)

(a) Pursuant to 326 IAC 3-5-1(2)(A) (Continuous Monitoring of Emissions), continuous emission monitoring systems for Boilers 1 and 2 shall be calibrated, maintained, and operated for measuring opacity, which meet all applicable performance specifications of 326 IAC 3-5-2.

(b) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(c) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5 or 326 IAC 10-4.

326 IAC 3; 326 IAC 7-2; 326 IAC 7-1.1-2 (Sulfur Dioxide Emissions and Sulfur Content)

(a) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed the equivalent of 0.7 pound per million BTU heat input, using a calendar month average.

(b) Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7, coal sampling and analysis data shall be collected as follows:

(1) Coal sampling shall be performed using the methods specified in 326 IAC 3-7-2(a), and sample preparation and analysis shall be performed as specified in 326 IAC 3-7-2(c), (d), and (e); or

(2) Pursuant to 326 IAC 3-7-2(b)(2) and 326 IAC 3-7-3, manual or other non-ASTM automatic sampling and analysis procedures may be used upon a demonstration, submitted to the department for approval, that such procedures provide sulfur dioxide emission estimates representative either of estimates based on coal sampling and analysis procedures specified in 326 IAC 3-7-2 or of continuous emissions monitoring; or

(3) The Permittee shall meet the minimum sampling requirements specified in 326 IAC 3-7-2(b)(3), and sample preparation and analysis shall be performed as specified in 326 IAC 3-7-2(c), (d), and (e).

(4) Pursuant to 326 IAC 3-7-5(a), the Permittee shall develop a standard operating procedure (SOP) to be followed for sampling, handling, analysis, quality control, quality assurance, and data reporting of the information collected pursuant to 326 IAC 3-7-2 through 326 IAC 3-7-4. In addition, any revision to the SOP shall be submitted to IDEM, OAQ.

(c) Upon written notification to IDEM by a facility owner or operator, continuous emission monitoring data collected and reported pursuant to 326 IAC 3-5 may be used as the means for determining compliance with the emission limitations in 326 IAC 7. Upon such notification, the other requirements of 326 IAC 7-2 shall not apply. [326 IAC 7-2-1(g)]

Coal-Fired Boiler 5

Note: Pursuant to 40 CFR 52.21(i)(4)(vi), the installation of Boiler 5 with the accompanying coal, ash, and limestone handling was exempted from federal PSD review requirements in PC (79) 1680 because of Purdue's status as a nonprofit educational institution.

326 IAC 2; 326 IAC 7-1.1-2(a); 326 IAC 6-2-1(g) (Construction Permit Limitations)

Pursuant to Construction Permit PC (79) 1680, issued June 6, 1988, and 326 IAC 2-2 (Prevention of Significant Deterioration), the following requirements apply to Boiler 5:

(a) Sulfur dioxide emissions shall not exceed:

(1) 0.9 pounds per million Btu's of heat input based on a 30 day rolling weighted average basis, and

(2) 1.1 pounds per million Btu's of heat input based on a block 24 hour average basis.

(b) Particulate matter emissions shall not exceed 0.05 pounds per million Btu's of heat input. This requirement will be met by using a baghouse.

(c) Carbon monoxide emissions shall not exceed 0.27 pounds per million Btu's of heat input.

(d) The rate of heat input into the boiler shall not exceed 279 million Btu's per hour.

(e) The source shall, prior to any change in the operation of Boiler 5 that may result in an increase in emissions, specified in 326 IAC 2-1.1, submit a Part 70 Source Modification application to the OAQ. No change shall be made until approval is obtained. Further, no change in emission control equipment is to be made without prior approval.

326 IAC 2 (Construction Permit Compliance Determination Requirements)

Pursuant to Construction Permit PC (79) 1680, issued June 6, 1988:

(a) Compliance with the sulfur dioxide emission limitations shall be met by using a circulating fluidized bed boiler with alkali injection.

(b) Compliance with the sulfur dioxide emission limits for Boiler 5 shall be determined on a 30-day rolling weighted average emission basis. The emission rates shall be determined by using the SO_2 continuous monitoring data to calculate daily emission rates pursuant to 40 CFR 60.45b. The percent removal shall be determined by using fuel sampling and analysis to determine the incoming SO_2 emissions and using the SO_2 continuous monitoring data to determine the outlet SO_2 emissions, pursuant to 40 CFR 60.45b.

(c) Compliance with the block 24 hour average sulfur dioxide emission limitation of 1.1 lb/MMBtu shall be determined by using the continuous sulfur dioxide emission monitoring data. Excess 24 hour average emission rates due to startup and shutdown may be excluded from compliance determinations to the extent that they represent operation in a manner consistent with good air pollution control practice for minimizing emissions and are unavoidable.

(d) Compliance with the particulate matter emissions limit of 0.05 pounds per million Btu's of heat input shall be met by using a baghouse.

(e) Compliance with the heat input limit shall be determined on a 30-day rolling weighted average basis.

326 IAC 5-1-3 (Temporary Alternative Opacity Limitations)

(a) Pursuant to 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), when building a new fire in a boiler, or shutting down a boiler, opacity may exceed the 40% opacity limitation established by 326 IAC 5-1-2. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period. Opacity in excess of the applicable limit established in 326 IAC 5-1-2 shall not continue for more than two (2) six (6)-minute averaging periods in any twenty-four (24) hour period. [326 IAC 5-1-3(a)]

(b) If a facility cannot meet the opacity limitations of 326 IAC 5-1-3(a), the Permittee may submit a written request to IDEM, OAQ, for a temporary alternative opacity limitation in accordance with 326 IAC 5-1-3(d). The Permittee must demonstrate that the alternative limit is needed and justifiable.

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-1(f) and (g), the limitation that would otherwise have been established by 326 IAC 6-2 is not applicable because Boiler 5 is subject to an NSPS with a particulate matter limit and to an alternate particulate matter limit established in the construction permit.

Gas and Oil-Fired Boiler 3

326 IAC 5-1-3 (Temporary Alternative Opacity Limitations)

(a) Pursuant to 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), when building a new fire in a boiler, or shutting down a boiler, opacity may exceed the 40% opacity limitation established by 326 IAC 5-1-2. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period. Opacity in excess of the applicable limit established in 326 IAC 5-1-2 shall not continue for more than two (2) six (6)-minute averaging periods in any twenty-four (24) hour period. [326 IAC 5-1-3(a)]

(b) If a facility cannot meet the opacity limitations of 326 IAC 5-1-3(a), the Permittee may submit a written request to IDEM, OAQ, for a temporary alternative opacity limitation in accordance with 326 IAC 5-1-3(d). The Permittee must demonstrate that the alternative limit is needed and justifiable.

326 IAC 7-1.1 (Sulfur Dioxide (SO_2))

Pursuant to 326 IAC 7-1.1-2(a)(3), sulfur dioxide emissions from Boiler 3 shall not exceed five-tenths (0.5) pound per million Btu's when combusting only distillate oil or a combination of only distillate oil and natural gas.

326 IAC 3; 326 IAC 7-2; 326 IAC 7-1.1-2 (Sulfur Dioxide Emissions and Sulfur Content)

(a) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed the equivalent of 0.5 lb/MMbtu, using a calendar month average.

(b) Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7-4, fuel sampling and analysis data shall be collected as follows:

(1) The Permittee may rely upon vendor analysis of fuel delivered, if accompanied by a vendor certification [326 IAC 3-7-4(b)]; or,

(2) The Permittee shall perform sampling and analysis of fuel oil samples in accordance with 326 IAC 3-7-4(a).

(A) Oil samples shall be collected from the tanker truck load prior to transferring fuel to the storage tank; or

(B) Oil samples shall be collected from the storage tank immediately after each addition of fuel to the tank.

(c) Upon written notification to IDEM by a facility owner or operator, continuous emission monitoring data collected and reported pursuant to 326 IAC 3-5 may be used as the means for determining compliance with the emission limitations in 326 IAC 7. Upon such notification, the other requirements of 326 IAC 7-2 shall not apply. [326 IAC 7-2-1(g)]

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

Pursuant to 326 IAC 6-2-1(f), the limitation that would otherwise have been established by 326 IAC 6-2 is not applicable because Boiler 3 is subject to an NSPS with a particulate matter limit.

Coal Handling and Processing

326 IAC 2-2-1 (PSD Minor Limit)

(a) In order to make the requirements of 326 IAC 2-2-1(x) and 326 IAC 2-2-1(jj) (PSD Requirements) not applicable to COAL Segment 2, the emissions from the coal storage and handling equipment included in COAL Segment 2 shall be limited to less than twenty-five (25) tons of particulate matter (PM) per twelve (12) consecutive month period and less than fifteen (15) tons of PM_{10} per twelve (12) consecutive month period. Compliance with these limits shall be determined at the end of each month

(b) Pursuant to Construction Permit CP 157-3617, issued July 7, 1994, emissions from the coal storage and handling equipment included in COAL Segment 2 shall be limited as follows:

(1) Particulate matter (PM) emissions shall not exceed 5.7 pounds per hour.

(2) PM_{10} emissions shall not exceed 3.4 pounds per hour.

(3) All three baghouses (CV1, CV2, and CV3) shall remain operational at all times that the associated coal processing or conveyors are in use.

326 IAC 6-3-2 (Particulate)

(a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the COAL Segment 1 shall not exceed 52.23 pounds per hour when operating at a process weight rate of 110 tons per hour, and the allowable particulate emission rate from the COAL Segment 2 shall not exceed 55.44 pounds per hour when operating at a process weight rate of 150 tons per hour. These pounds per hour limitations was calculated using the following equation:

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

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

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the Boiler 5 coal preparation system shall not exceed 22.48 pounds per hour when operating at a process weight rate of 12.68 tons per hour. The pounds per hour limitation was calculated using the following equation:

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

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

Ash handling for Boilers 1 and 2

326 IAC 2-2-1 (PSD Minor Limit)

(a) In order to make the requirements of 326 IAC 2-2-1(x) and 326 IAC 2-2-1(jj) (PSD Requirements) not applicable to the ash handling system identified as Ash Segment 1, the emissions from Ash Segment 1 shall be limited to less than twenty-five (25) tons of particulate matter (PM) per twelve (12) consecutive month period and less than fifteen (15) tons of PM_{10} per twelve (12) consecutive month period. Compliance with these limits shall be determined at the end of each month.

(b) Emissions from the ash handling equipment included in Ash Segment 1 shall be limited as follows:

(1) Particulate matter (PM) emissions shall not exceed 5.7 pounds per hour.

(2) PM_{10} emissions shall not exceed 3.4 pounds per hour.

326 IAC 6-3-2 (Particulate)

Pursuant to Minor Source Mod 157-15659-00012, issued September 23, 2002, and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the ash handling system identified as ASH Segment 1 shall not exceed 24.03 pounds per hour when operating at a process weight rate of 14 tons per hour.

The pounds per hour limitation was calculated with the following equation:

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

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

Ash handling for Boiler 5

326 IAC 6-3-2 (Particulate)

(a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the pneumatic ash handling system for Boiler 5 shall not exceed 30.5 pounds per hour when operating at a process weight rate of 20 tons per hour. The pounds per hour limitation was calculated using the following equation:

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

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

(b) Pursuant to 326 IAC 6-3-2(e)(3) (Particulate Emission Limitations for Manufacturing Processes), for the ash unloading at the maximum throughput rate of 300 tons per hour, the concentration of particulate in the discharge gases to the atmosphere shall be less than 0.10 pounds per one thousand (1,000) pounds of gases.

Limestone Handling

326 IAC 6-3-2 (Particulate)

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the limestone handling system shall not exceed 22.2 pounds per hour when operating at a process weight rate of 12.5 tons per hour. This pounds per hour limitation was calculated using the following equation:

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

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

Incinerators

326 IAC 4-2-2 (Incinerators)

(a) Pursuant to 326 IAC 4-2-2 (Incinerators), all incinerators shall comply with the following requirements:

(1) Consist of primary and secondary chambers or the equivalent.

(2) Be equipped with a primary burner unless burning only wood products.

(3) Comply with 326 IAC 5-1 and 326 IAC 2.

(4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in subsection (c).

(5) Not emit particulate matter in excess of one (1) of the following:

(A) For RAD1, with a 250 lb/hr waste capacity:

Three-tenths (0.3) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air.

(B) For the poultry and swine incinerators, each with a 100 lb/hr waste capacity, and for RAD2, with a 50 lb/hr waste capacity:

Five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with solid waste capacity less than two hundred (200) pounds per hour.

(6) If any of the requirements of subdivisions (1) through (5) are not met, then the owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

(b) An incinerator is exempt from subsection (a)(5) if subject to a more stringent particulate matter emission limit in 40 CFR 52 Subpart P*, State Implementation Plan for Indiana.

(c) An owner or operator developing an operation and maintenance plan pursuant to subsection (a)(4) must comply with the following:

(1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in subsection (a)(5) and include the following:

(A) Procedures for receiving, handling, and charging waste.

(B) Procedures for incinerator startup and shutdown.

(C) Procedures for responding to a malfunction.

(D) Procedures for maintaining proper combustion air supply levels.

(E) Procedures for operating the incinerator and associated air pollution control systems.

(F) Procedures for handling ash.

(G) A list of wastes that can be burned in the incinerator.

(2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.

(3) The operation and maintenance plan must be readily accessible to incinerator operators.

(4) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.

(d) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

Black Start Generator

326 IAC 2-2-1; 326 IAC 2-7-10.5(d)(5)(D) (Source Modification Limits)

(a) Pursuant to 326 IAC 2-7-10.5(d)(5) (Source Modifications), the potential to emit of nitrogen oxides (NO_X) from the Black Start generator shall be limited to less than 25 tons per year, as follows:

(1) The input of No. 2 fuel oil to the generator, BSG, shall be limited to less than 113,000 gallons per 12 consecutive month period, with compliance determined at the end of each month.

(2) NO_X emissions shall not exceed 3.2 lb/MMBtu.

(b) Compliance with this limit makes 326 IAC 2-7-10.5(f), (g), and (h) ("Significant Source Modifications") not applicable to this modification.

(c) Compliance with this limit also makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-1.1-4 (Federal Provisions) not applicable to this modification.

Aviation Tech Building Boilers and Insignificant Boilers

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission Limitations for Facilities Specified in 326 IAC 6-2-1(d)), the PM emissions from each of the boilers classified as an insignificant activity shall not exceed 0.1 pound per million Btu heat input (lb/MMBtu).

Note: The year of installation and exact heat input capacity is unknown for most of the boilers classified as insignificant activities. Therefore, the total source maximum operating capacity and a specific particulate emission limit for each insignificant boiler can not be calculated, and the most conservative limit from 326 IAC 6-2-4 has been applied.

Pumps with Diesel Fueled Engines

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

Pursuant to Minor Source Modification 157-15944-00012, issued October 21, 2002, and 326 IAC 7-1.1-2, the sulfur dioxide emissions from fuel combustion facilities shall not exceed five-tenths (0.5) pound per million Btu for distillate oil combustion.

326 IAC 3; 326 IAC 7-2; 326 IAC 7-1.1-2 (Sulfur Dioxide Emissions and Sulfur Content)

Compliance with the SO_2 limit of 0.5 lb/MMBtu shall be determined utilizing one of the following options:

(a) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed the equivalent of five-tenths (0.5) pound per million Btu heat input.

(b) Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7-4, fuel sampling and analysis data shall be collected as follows:

(1) The Permittee may rely upon vendor analysis of fuel delivered, if accompanied by a vendor certification [326 IAC 3-7-4(b)]; or,

(2) The Permittee shall perform sampling and analysis of fuel oil samples in accordance with 326 IAC 3-7-4(a).

(A) Oil samples shall be collected from the tanker truck load prior to transferring fuel to the storage tank; or

(B) Oil samples shall be collected from the storage tank immediately after each addition of fuel to the tank.

Degreasing Operations and Cleaners and Solvents

326 IAC 8-3-2 (Organic Solvent Degreasing Operations: Cold Cleaner Operation)

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

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5 (Organic Solvent Degreasing Operations: Cold Cleaner Degreaser Operation and Control)

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs, constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius ($38^{O}C$) (one hundred degrees Fahrenheit ($100^{O}F$));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius ($38^{O}C$) (one hundred degrees Fahrenheit ($100^{O}F$)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius ($38^{O}C$) (one hundred degrees Fahrenheit ($100^{O}F$)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius ($48.9^{O}C$) (one hundred twenty degrees Fahrenheit ($120^{O}F$)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

Additional Insignificant Activities

326 IAC 6-3-2; 40 CFR 52 Subpart P (Particulate)

(a) Pursuant to 40 CFR 52 Subpart P, particulate matter emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

(b) 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. This condition is not federally enforceable.

(c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the brazing, cutting, soldering, welding, grinding, and machining operations shall not exceed an amount determined by the following, for a process weight rate equal to or greater than 100 pounds per hour:

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

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

Testing Requirements

Coal-Fired Boilers 1 and 2

By December 31 of the second calendar year following the most recent stack test, or within 180 days after issuance of this permit, whichever is later, compliance with the PM limitation for Boilers 1 and 2 shall be determined by a performance stack test conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

Coal-Fired Boiler 5

By December 31 of the second calendar year following the most recent stack test, or within 180 days after issuance of this permit, whichever is later, compliance with the PM limitation for Boiler 5 shall be determined by a performance stack test conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Gas and Oil-Fired Boiler 3

Within 180 days of issuance of this Part 70 permit, the Permittee shall conduct initial performance tests for Boiler 3 for NSPS Subpart D and furnish the Administrator a written report of the results of such performance tests in accordance with 40 CFR 60.8 and 40 CFR 60.46. Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in 40 CFR 60 Subpart D unless the Administrator approves an alternative in accordance with 40 CFR 60.8(b). [40 CFR 60.8]

Note: If EPA approves an alternate monitoring plan for Boiler 3, and waives the NSPS requirement to install and operate a COM, then IDEM, OAQ, may require additional PM and opacity testing to demonstrate compliance with 326 IAC 5, 326 IAC 6, and 322 IAC 3-5-1(c)(2)(A)(ii).

Coal handling

Within 180 days of issuance of this Part 70 permit, the Permittee shall conduct initial performance tests for NSPS Subpart Y in accordance with 40 CFR 60.8 and 40 CFR 60.254. Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in 40 CFR 60 Subpart Y unless the Administrator approves an alternative in accordance with 40 CFR 60.8(b). [40 CFR 60.8]

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

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

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

Boilers 1 and 2:
The coal fired boilers 1 and 2 have applicable compliance monitoring conditions as specified below:

Monitoring: Multiclone

(a) The ability of each multiclone to control particulate emissions shall be monitored at least once per shift, when the unit is in operation, by measuring and recording the total static pressure drop across the multiclone. Pressure drop monitoring equipment shall be installed in accordance with Section C - Compliance Monitoring and Section C - Pressure Gauge and Other Instrument Specifications.

(b) Normal operating range will be determined and provided to IDEM within the first one hundred (100) hours of boiler operation after installation of the pressure drop monitoring equipment.

(c) Reasonable response steps shall be taken in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records and Reports whenever the static pressure drop is outside of the normal operating range for the corresponding boiler steam load. A pressure drop reading that is outside normal range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan -Preparation, Implementation, Records and Reports, shall be considered a deviation from this permit.

Electrostatic Precipitator Parametric Monitoring

(a) The ability of each ESP to control particulate emissions shall be monitored once per shift, when the unit is in operation, by measuring and recording the primary and secondary voltages and the currents of the transformer-rectifier (T-R) sets.

(b) When for any one reading, operation is outside one of the normal ranges shown below, or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A voltage or current reading outside the normal range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Boiler 1:

(1)	Primary voltage:	350 - 430 V
(2)	Secondary voltage:	36 - 45 kV
(3)	T-R set secondary current:	250 - 400 mA

Boiler 2:

(1)	Primary voltage:	260 - 330 V
(2)	Secondary voltage:	29 - 38 kV
(3)	T-R set secondary current:	370 - 420 mA

Opacity Readings

(a) In the event of emissions exceeding twenty percent (20)% average opacity for three (3) consecutive six (6) minute averaging periods, appropriate response steps shall be taken in accordance with Section C - Compliance Response Plan - Preparation,

Implementation, Records, and Reports such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back below twenty percent (20%). Examples of expected response steps include, but are not limited to, boiler loads being reduced, adjustment of flue gas conditioning rate, and ESP T-R sets being returned to service.

(b) Opacity readings in excess of twenty percent (20%) but not exceeding the opacity limit for the unit are not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

These monitoring conditions are necessary because the multiclone dust collectors and the ESPs for the coal fired boilers must operate properly to ensure compliance with 326 IAC 6-2 (Particulate Matter Emissions Limitations) and 326 IAC 2-7 (Part 70).

Note: The Section D Preventative Maintenance Plan condition for Boilers 1 and 2 and their ESPs does not include the usual requirement to inspect the ESPs for air and water infiltration once per month. IDEM, OAQ compliance staff determined that every two years is sufficiently frequent for the air infiltration inspections, and water infiltration inspections are not necessary, because both of the ESPs exhaust indoors.

Boiler 5:

The coal fired boiler 5 has applicable compliance monitoring conditions as specified below:

Baghouse Parametric Monitoring

(a) The Permittee shall record the total static pressure drop across the Boiler 5 baghouse at least once per shift when the boiler is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 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- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit

(b) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

Baghouse Inspections

(a) An inspection shall be performed each calendar quarter of all bags controlling particulate emissions from Boiler 5. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Broken or Failed Bag Detection
In the event that bag failure has been observed, the affected baghouse compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 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

SO_2 Monitoring System Downtime
Whenever the SO_2 continuous emission monitoring system is malfunctioning or down for repairs or adjustments, the Permittee shall monitor and record boiler load, fuel sulfur content, and limestone injection rate, to demonstrate that the operation of the limestone injection system continues in a manner typical for the boiler load and sulfur content of the coal fired. Limestone injection parametric monitoring readings shall be recorded at least once per hour until the primary CEMS or a backup CEMS is brought online.

These monitoring conditions are necessary because the baghouse for the coal fired boiler must operate properly to ensure compliance with 326 IAC 6-2 (Particulate Matter Emissions Limitations) and 326 IAC 2-7 (Part 70).

Boiler 3:
The gas and oil-fired boiler 3 has no applicable compliance monitoring conditions other than those included in the NSPS provisions shown in the Federal Rule Applicability portion of this TSD.

Note: If EPA approves an alternate monitoring plan for Boiler 3, and waives the NSPS requirement to install and operate a COM, then IDEM, OAQ, may require additional opacity monitoring to demonstrate compliance with 326 IAC 5, 326 IAC 6, and 322 IAC 3-5-1(c)(2)(A)(ii).

Coal Handling and Processing

(a) Visible emission notations of the coal unloading station shall be performed once per shift during normal daylight operations when unloading coal. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of each coal transfer exhaust point shall be performed once per shift during normal daylight operations when transferring coal. A trained employee shall record whether emissions are normal or abnormal.

(c) If abnormal emissions are observed from the coal unloading station or at any transfer point exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of abnormal emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure

to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(d) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation.

(e) 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.

(f) 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.

Baghouse Parametric Monitoring

(a) The Permittee shall record the total static pressure drop across each of the baghouses used in conjunction with the coal transfer drop points at least once per shift when coal is being transferred. When for any one reading, the pressure drop across the baghouse is outside the normal range of 4.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

Baghouse Inspections

(a) An inspection shall be performed each calendar quarter of all bags controlling particulate emissions from the coal processing or conveying. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected baghouse compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in

accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 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.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then 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).

RotoClone Inspections
An inspection shall be performed each calendar quarter of the RotoClones controlling the PM emissions. Inspections required by this condition shall not be performed in consecutive months.

RotoClone Failure Detection
In the event that RotoClone 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

<u>Boiler 1 and 2 ash handling</u>

Visible Emissions Notations
(a) Once per shift visible emission notations of the ASH1 and AB1 exhaust stacks shall be performed during normal daylight operations and when the silo is receiving ash. A trained employee shall record whether emissions are normal or abnormal.

(b) Once per shift visible emission notations of the ash truck loading system shall be performed during normal daylight operations when the ash trucks are receiving ash. A trained employee shall record whether emissions are normal or abnormal.

(c) If abnormal emissions are observed from the ash silo unloading station or at any baghouse exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of abnormal emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(d) 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.

(e) 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.

(f) 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.

Baghouse Parametric Monitoring

(a) The Permittee shall record the total static pressure drop across the baghouse and air filter controlling emissions from the ash handling system, at least once per shift when the when the ash handling system is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 to 4.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C-Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

Baghouse Inspections

(a) An inspection shall be performed each calendar quarter of all bags controlling particulate emissions from the ash handling operation. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations

continue after bag failure is observed and it will be 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.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then 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).

Boiler 5 Ash Handling

Visible Emissions Notations

(a) Visible emission notations of the ASH5A and ASH5B exhaust stacks and the exhaust vent ASH 5C shall be performed at least once per shift during normal daylight operations when transferring ash. A trained employee shall record whether emissions are normal or abnormal.

(b) If abnormal emissions are observed from the ash silo unloading station or at any baghouse or filter module exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of abnormal emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation.

(d) 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.

(e) 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.

Baghouse Parametric Monitoring

(a) The Permittee shall record the total static pressure drop across the ash silo baghouse at least once per shift when the ash handling is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 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- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan -

Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The Permittee shall record the total static pressure drop across the air filters controlling emissions from the dry ash truck loading system, at least once per shift when the dry ash truck loading system is in operation. When for any one reading, the pressure drop across the air filter is outside the normal range of 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(c) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

Baghouse and Filter Module Inspections

(a) An inspection shall be performed each calendar quarter of all bags and canister filters controlling particulate emissions from the ash handling. Inspections required by this condition shall not be performed in consecutive months. All defective bags or filters shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Broken or Failed Bag Detection
In the event that bag failure has been observed:

(a) For multi-compartment units, the affected baghouse compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 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.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse’s pressure readings with abnormal visible emissions or the failure is indicated

by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then 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).

Limestone Handling

Visible Emissions Notations

(a) Visible emission notations of the limestone handling system exhaust points shall be performed at least once per shift during normal daylight operations when limestone is being transferred. A trained employee shall record whether emissions are normal or abnormal.

(b) If visible emissions are observed crossing the property line or boundaries of the property, right-of-way, or easement on which the source is located, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports.

(c) If abnormal emissions are observed from a limestone handling system exhaust point, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of an abnormal emission that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(d) 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.

(e) 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.

(f) 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.

Baghouse Parametric Monitoring

(a) The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the limestone storage silo at least once per shift when limestone is being transferred. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 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- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications. The specifications shall be available on site with the Preventive Maintenance Plan.

Baghouse Inspections

(a) An inspection shall be performed each calendar quarter of all bags controlling particulate emissions from the limestone storage silo and all filter cartridges controlling particulate emissions from the limestone day bin. Inspections required by this condition shall not be performed in consecutive months. All defective filters shall be replaced.

(b) If an abnormal or improper condition is found during an inspection, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Discovery of an abnormal or improper condition is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected baghouse compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 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.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then 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).

<u>Pumps with Diesel Fueled Engines</u>

Visible Emissions Notations

(a) Pursuant to Minor Source Modification 157-15944-00012, issued October 21, 2002, visible emission notations of the diesel engine exhausts shall be performed once per shift during normal daylight hours when the pump engines are in operation. A trained employee shall record whether emissions are normal or abnormal.

(b) If abnormal emissions are observed at a diesel engine exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of an abnormal emission that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(c) 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.

(d) 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.

(e) 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.

Conclusion

The operation of this university shall be subject to the conditions of the attached proposed **Part 70 Permit No. T157-7340-00012.**

Purdue University
Paint Booth Emissions

Chemical Used	1999 Usage (gallons)	Potential Usage (gallons)	Specific Gravity	Density of chem. (lbs/gallon)	VOC (lb/gal)	lbs/year VOC actual total	lb/yr VOC potential total	HAZ Chem	%	lbs/hr HAP potential total	lbs/day HAP potential total
T70 F22 Lacquer	52	273.75		7.40	4.59	238.68	1,256.51	Toluene	10	0.023	0.555
Sealer Clear								Xylene	5	0.012	0.278
T60 F20 Lacquer	101	531.71		7.30	6.57	663.57	3,493.31	Toluene	10	0.044	1.063
Sealer Clear								Xylene	5	0.022	0.532
								Methanol	5	0.022	0.532
								MEK	10	0.044	1.063
Crown Lacquer	209	1100.26	0.775	6.46	6.46	1,350.14	7,107.71	Toluene	30	0.243	5.842
Thinner								Methanol	30	0.243	5.842
								Glycol Ethers(2-Butoxyethanol)	5	0.041	0.974
								MEK	5	0.041	0.974
VM&P Naptha	22	115.82	0.892	7.44	7.4393	163.66	861.60				
Metal Primer	12	63.17	1.28	10.65	3.7265	44.72	235.41				
Total:	396	2084.71				2,460.77	12,954.54			0.736	17.654
Usage Factor	1.40				lbs/day	6.74	35.49				
				x1.40 (usage factor)		9.43	49.65	x1.40 (usage factor)		1.03	24.70
						lbs/day Actual	lbs/day Potential			lbs/hr Potential	lbs/day Potential
						1.72	9.06				4.51
						tpy actual	tpy pot'l				tpy pot'l

Notes:

1. Potential usage found by dividing the 1999 usage by the actual hours operated (1,664) and multiplying by potential hours per year (8,760).
2. Actual Usage in the booth was 554 gallons of product in 1999. Products with the highest usage rate were used to represent the lesser used materials.
3. Calculations do not take into consideration any material reclaimed or sent out as a waste. Accounting for material reclaimed or sent out as a waste will lower emissions shown.
4. Usage factor is found by dividing total usage by listed material usage (554/396 = 1.40).

Purdue University
Printing Operations Emissions

Chemical Used	Usage (gallons)	1995 Usage (gallons)	avg. (gallons)	l Usage (gallons)	SG Specific Gravity	Dcs of chem. (lbs/gallon)	Wvs Volatile incl. water	Wws Weight % water	Wos minus exempt compounds
Isopropyl Alcohol	385	440	412.5	620.4499	0.7855	6.55	100		100
Fountain Solution					1.085	9.04	80	69.6	10.4
Fountain Solution 2	105	80	92.5	139.1312	1.17	9.75	42.15	40.55	1.6
Printing Ink-blue	484.906	429.06851	456.987	687.3642	1.02	8.51	22.4		22.4
Printing Ink-black					0.99	8.26	97.5	80.4	17.1
Blanket Wash	350	420	385	579.0865	0.828	6.90	99.13	49.48	49.65
Developer		61	30.5	45.87569	1.02	8.50	98	75.6	22.4

Chemical Used	Vws Volume % Water	VOC's VOC (lb/gal)	Dd lbs/yr VOC actual total	Rd lbs/yr VOC potential total
Isopropyl Alcohol	0	6.55107	#######	4,064.61
Fountain Solution	75.5323	0.94016	86.96	130.81
Fountain Solution 2	47.4625	0.156	14.43	21.70
Printing Ink-blue	0	1.9055232	870.80	1,309.79
Printing Ink-black	79.6916	1.4118786	543.57	817.60
Blanket Wash	40.9858	3.42585	#######	1,983.86
Developer	77.1429	1.904	58.07	87.35

VOC TOTALS:	Actual	Minimum Potential	Maximum Potential
lbs/yr	5,595.11	6,975.13	7,576.42
lbs/hr	0.96	0.80	0.86
lbs/day	15.33	19.11	20.76
tpy	2.80	3.49	3.79
Actual schedule = 5840 hrs/yr (16 hrs/day x 365 days/yr)			
Potential schedule = 8760 hrs/yr (24 hrs/day x 365 days/yr)			

Notes: Potential usage found by operating schedule factor
HAPs were negligible, thus not included in calculations

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office of Air Quality

Appendix B to Technical Support Document (TSD): Technical Support Document for the NO_X Budget Permit

Source Background and Description

Source Name: Purdue University
Source Location: 401 S. Grant Street, 1665 L.J. Freehafer Hall of Administrative Services, West Lafayette, Indiana, 47907-1665
Operated By: Purdue University Board of Trustees
Owned By: Purdue University Board of Trustees
ORIS Code: 50240
Operation Permit No.: T157-7340-00012
Permit Reviewer for NO_x Budget Permit: Rebecca Mason

NO_x Budget Permit Application and Rule Applicability

A complete Nitrogen Oxides (NO_X) Budget Permit Application for this NO_X budget source was received on August 4, 2003. The Office of Air Quality (OAQ) has reviewed a NO_X budget permit application from Purdue University under 326 IAC 10-4-7 for the operation of the NO_X budget source. The NOx budget source includes all NOx Budget Units at the source, including opt-in units, if applicable. The following units at the source are NO_X Budget Units:

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a maximum capacity of 281 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 01. Boiler 1 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods. Boiler 1 has a continuous emissions monitoring system (CEM) for nitrogen oxides (NO_X) and a continuous opacity monitor (COM).

(b) One (1) spreader stoker coal fired boiler, identified as Boiler 2, with installation completed in 1967, with a maximum capacity of 274 MMBtu/hr, with a multi-cyclone collector and an electrostatic precipitator for particulate matter control, exhausting to stack WADE 02. Boiler 2 has two (2) auxiliary natural gas fired burners rated at 35 MMBtu/hr per burner, used for ignition and flame stabilization periods . Boiler 2 has a continuous emissions monitoring system (CEM) for nitrogen oxides (NO_X) and a continuous opacity monitor (COM).

(c) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation completed in 1991, with a design capacity of 279 MMBtu/hr, with a baghouse for particulate matter control and limestone injection for sulfur dioxide control, combusting natural gas for ignition, exhausting to stack WADE 05. Boiler 5 has continuous emissions monitors (CEMs) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a

continuous opacity monitor (COM).

(d) One (1) natural gas and No. 2 fuel oil fired boiler, identified as Boiler 3, with installation completed in 1974, with a maximum capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitor (CEM) for nitrogen oxides (NO_X).

Pursuant to 326 IAC 10-4-7, the NO_X budget permit shall be a complete and segregable portion of the Part 70 permit and the NO_X budget portion of the Part 70 permit shall be administered in accordance with 326 IAC 2-7, except as provided otherwise by 326 IAC 10-4-7.

Program Description

On October 27, 1998, the U.S. EPA promulgated final federal rules requiring 22 states and the District of Columbia to submit state implementation plan (SIP) revisions to reduce the regional transport of ozone. The federal rule focused on reducing NO_X emissions in the affected states. In the federal rule, the U.S. EPA established a NO_X emission "budget" for each of the affected states and the District of Columbia. The "budget" represents a reduction from emissions in the year 2007 that the U.S. EPA believes will reduce the transport of NO_X emissions and will assist downwind areas in meeting ozone air quality standards. The states must demonstrate compliance with the "budget" by implementing control measures to reduce NO_X emissions beginning May 31, 2004. While the rule does not mandate which sources will have to reduce emissions, the rule did provide options that would result in a 65% reduction of NO_X emissions from utility boilers and a 60% reduction from large industrial (non-utility) boilers and turbines. IDEM developed the NO_X Budget Trading Program in 326 IAC 10-4 in response to this mandate. The NO_X reductions that will be achieved by this rule will result in significant air quality improvements throughout the state of Indiana, and will be especially important in those areas of the state where ozone levels exceed or regularly approach state and federal air quality health standards.

The Nitrogen Oxides Budget Trading Program is a regional cap and trade program among all the states subject to the NO_X SIP call. Electricity generating units (EGUs) and non-electricity generating units (non-EGUs) are allocated allowances for tons of NO_X that they are allowed to emit during the ozone season. IDEM allocates NO_X allowances for the affected units, and owners or operators of these units are able to buy, sell, or trade allowances, as necessary, to demonstrate compliance with the unit's NO_X emissions cap. Because this program is a regional program administered by U.S. EPA, sources are able to buy, sell or trade allowances across state boundaries and between different types of units and sources. More general information about the NO_X SIP Call can be found at: http://www.epa.gov/airmarkets/fednox/index.html and http://www.in.gov/idem/air/standard/Sip/index.html.

326 IAC 10-4 (NO_X Budget Trading Program) Requirements

(a) Pursuant to 326 IAC 10-4-4(b), the owners and operators and, to the extent applicable, the NO_X authorized account representative of the NO_X budget source and each NO_X budget unit at the source shall comply with the monitoring requirements of 40 CFR 75 and 326 IAC 10-4-12. The emissions measurements recorded and reported in accordance with 40 CFR 75 and 326 IAC 10-4-12 shall be used to determine compliance by each unit with the NO_X budget emissions limitation under 326 IAC 10-4-4(c).

(b) Pursuant to 326 IAC 10-4-4(c), the owners and operators of the NO_X budget source and

each NO_X budget unit at the source shall hold NO_X allowances available for compliance deductions under 326 IAC 10-4-10(j), as of the NO_X allowance transfer deadline, in each unit's compliance account and the source's overdraft account in an amount:

(1) Not less than the total NO_X emissions for the ozone control period from the unit, as determined in accordance with 40 CFR 75 and 326 IAC 10-4-12;

(2) To account for excess emissions for a prior ozone control period under 326 IAC 10-4-10(k)(5); or

(3) To account for withdrawal from the NO_X budget trading program, or a change in regulatory status of a NO_X budget opt-in unit.

The NO_X budget units shall be subject to the requirements under 326 IAC 10-4-4(c)(1) starting on May 31, 2004.

(c) Pursuant to 326 IAC 10-4-4(d), the owners and operators of each NO_X budget unit that has excess emissions in any ozone control period shall do the following:

(1) Surrender the NO_X allowances required for deduction under 326 IAC 10-4-10(k)(5).

(2) Pay any fine, penalty, or assessment or comply with any other remedy imposed under 326 IAC 10-4-10(k)(7).

(d) Pursuant to 326 IAC 10-4-4(e)(1), unless otherwise provided, the owners and operators of the NO_X budget source and each NO_X budget unit at the source shall keep either on site at the source or at a central location within Indiana for those owners or operators with unattended sources, each of the following documents for a period of five (5) years:

(1) The account certificate of representation for the NO_X authorized account representative for the source and each NO_X budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with 326 IAC 10-4-6(h). The certificate and documents shall be retained either on site at the source or at a central location within Indiana for those owners or operators with unattended sources beyond the five (5) year period until the documents are superseded because of the submission of a new account certificate of representation changing the NO_X authorized account representative.

(2) All emissions monitoring information, in accordance with 40 CFR 75 and 326 IAC 10-4-12, provided that to the extent that 40 CFR 75 and 326 IAC 10-4-12 provide for a three (3) year period for record keeping, the three (3) year period shall apply.

(3) Copies of all reports, compliance certifications, and other submissions and all records made or required under the NO_X budget trading program.

(4) Copies of all documents used to complete a NO_X budget permit application and any other submission under the NO_X budget trading program or to demonstrate compliance with the requirements of the NO_X budget trading program.

This period may be extended for cause, at any time prior to the end of five (5) years, in writing by IDEM, OAQ or the U.S. EPA. Records retained at a central location within Indiana shall be available immediately at the location and submitted to IDEM, OAQ or U.S. EPA within three (3) business days following receipt of a written request. Nothing in 326 IAC 10-4-4(e) shall alter the record retention requirements for a source under 40 CFR 75. Unless otherwise provided, all records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

(e) Pursuant to 326 IAC 10-4-4(e)(2), the NO_X authorized account representative of the NO_X budget source and each NO_X budget unit at the source shall submit the reports and compliance certifications required under the NO_X budget trading program, including those under 326 IAC 10-4-8, 326 IAC 10-4-12, or 326 IAC 10-4-13.

Monitoring

The NO_X Budget Trading Program references monitoring and reporting requirements from the Acid Rain program at 40 CFR Part 75. These provisions require, for most sources, the use of continuous emissions monitors (CEMs). A CEM is a system composed of various equipment that continuously measures the amount of nitrogen oxides emitted into the atmosphere in exhaust gases from the NO_X budget unit's stack.

NO_X Emissions Allocations

(a) Pursuant to 326 IAC 10-4-7(e), this NO_X budget permit is deemed to incorporate automatically, upon recordation by the U.S. EPA under 326 IAC 10-4-10, 326 IAC 10-4-11, or 326 IAC 10-4-13, every allocation, transfer, or deduction of a NO_X allowance to or from the compliance accounts of the NO_X budget units or the overdraft account of the NO_X budget source covered by this permit. The allocations for each ozone season and transaction information can be found at: http://www.epa.gov/airmarkets/tracking/factsheet.html. In addition, IDEM, OAQ posts proposed allocations prior to submitting them to the U.S. EPA on the following web site: http://www.in.gov/idem/air/standard/Sip/index.html.

(b) The following requirements from 326 IAC 10-4-4(c) apply to NO_X allowances:

(1) Each ton of NO_X emitted in excess of the NO_X budget emissions limitation shall constitute a separate violation of the Clean Air Act (CAA) and 326 IAC 10-4.

(2) NO_X allowances shall be held in, deducted from, or transferred among NO_X allowance tracking system accounts in accordance with 326 IAC 10-4-9 through 11, 326 IAC 10-4-13, and 326 IAC 10-4-14.

(3) A NO_X allowance shall not be deducted, in order to comply with the requirements under 326 IAC 10-4-4(c)(1), for an ozone control period in a year prior to the year for which the NO_X allowance was allocated.

(4) A NO_X allowance allocated under the NO_X budget trading program is a limited authorization to emit one (1) ton of NO_X in accordance with the NO_X budget trading program. No provision of the NO_X budget trading program, the NO_X budget permit application, the NO_X budget permit, or an exemption under 326 IAC 10-4-3 and no provision of law shall be construed to limit the authority of the U.S. EPA or IDEM, OAQ to terminate or limit the authorization.

(5) A NO_X allowance allocated under the NO_X budget trading program does not constitute a property right.

(6) Upon recordation by the U.S. EPA under 326 IAC 10-4-10, 326 IAC 10-4-11, or 326 IAC 10-4-13, every allocation, transfer, or deduction of a NO_X allowance to or from a NO_X budget unit's compliance account or the overdraft account of the source where the unit is located is deemed to amend automatically, and become a part of, this NO_X budget permit of the NO_X budget unit by operation of law without any further review.

Other Record Keeping and Reporting Requirements

Pursuant to 326 IAC 10-4-7(g), except as provided in 326 IAC 10-7-4(e), IDEM, OAQ shall revise the NO_X budget permit, as necessary, in accordance with the permit modification and revision provisions under 326 IAC 2-7.

Pursuant to 326 IAC 10-4-7(b)(1)(C), for permit renewal, the NO_X authorized account representative shall submit a complete NO_X budget permit application covering the NO_X budget units at the source in accordance with 326 IAC 2-7-4(a)(1)(D) with the Part 70 permit renewal.

Submissions

The NO_X authorized account representative for each NO_X budget source on behalf of which a submission is made must sign and certify every report or other submission required by the NO_X budget permit. The NO_X authorized account representative must include the following certification statement in every submission: "I am authorized to make this submission on behalf of the owners and operators of the NO_X budget sources or NO_X budget units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

Recommendation

The staff recommends to the Commissioner that the NO_X budget permit be approved.

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

Additional Information

Questions regarding the NO_X budget permit can be directed to Rebecca Mason at the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ), 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015 or by telephone at (317) 233-9664 or toll free at 1-800-451-6027 extension 3-9664.

The source will be inspected by IDEM's compliance inspection staff. Persons seeking to obtain information regarding the source's compliance status or to report any potential violation of any permit condition should contact Wanda Stanfield at the Office of Air Quality (OAQ) address or by

telephone at (317) 233-6864 or toll free at 1-800-451-6027 extension 3-6864.

Copies of the Code of Federal Regulations (CFR) referenced in the permit may be obtained from:

Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
or
The Government Printing Office
Washington, D.C. 20402
or
on the Government Printing Office web site at
http://www.access.gpo.gov/nara/cfr/index.html

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

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(800) 451-6027
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August 18, 2003

61-50 DW

Mr. Wayne W. Kjonaas
Purdue University
401 South Grant Street
West Lafayette, IN 47907-2024

Re: Response to Review Request No. 16409:
Section 112(j) Applicability Determination
Plant ID: 157-00012

Dear Mr. Kjonaas:

Purdue University, located at 1665 L.J. Freehafer Hall in West Lafayette, Indiana, submitted a request for an applicability determination regarding the requirements of Section 112(j) of the Clean Air Act (CAA) on May 14, 2002. The letter was submitted in accordance with 40 CFR 63.52(d)(1) and requested that the Indiana Department of Environmental Management, Office of Air Quality (IDEM, OAQ) determine if Purdue University is subject to the requirements of Section 112(j) (40 CFR 63.50 through 63.56) for the following source categories:

- Brick and Structural Clay Products;
- Cellulose Production Manufacturing;
- Clay Ceramics Manufacturing;
- Combustion Turbines;
- Engine Test Cells/Stands;
- Fabric Printing, Coating, and Dyeing;
- Flexible Polyurethane Foam Fabrication Operations;
- Friction Products Manufacturing;
- Generic MACT source categories:
  - Carbon Black Production,
  - Cyanide Chemicals Manufacturing,
  - Ethylene Production, and
  - Spandex Production;
- Integrated Iron and Steel;
- Large Appliance Surface Coating;
- Metal Can Surface Coating;
- Metal Coil Surface Coating;
- Metal Furniture Surface Coating;
- Miscellaneous Coating Manufacturing;
- Miscellaneous Metal Parts and Products Surface Coating;
- Miscellaneous Organic Chemical Production and Processes;
- Paint Stripping Operations;
- Paper and Other Web Surface Coating;
- Plastic Parts Surface Coating;
- Plywood and Composite Wood Products;
- Polyvinyl Chloride and Copolymers Production;

- Reciprocating Internal Combustion Engine (RICE);
- Reinforced Plastics Composites Production; and
- Wood Building Products Surface Coating.

Pursuant to 40 CFR 63.50, the requirements of Section 112(j) will apply only if your entire source is a major source of hazardous air pollutants (HAPs) and one or more of your processes or emissions units belong in a category or subcategory for which the United States Environmental Protection Agency (U.S. EPA) has failed to promulgate an emission standard on or before the Section 112(j) deadline.

MAJOR SOURCE DETERMINATION

The information submitted in the Part 1 MACT Application indicates that Purdue University is a major source of HAPs. In addition, IDEM, OAQ calculated the potential to emit HAPs from the coal-fired boilers at Purdue University using emission factors available in Chapter 1.1 of the U.S. EPA document, *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources* (AP-42, Fifth Edition, January 1995, with Supplements). IDEM, OAQ found that one of the coal-fired boilers rated at 248 million British thermal units per hour (mmBtu/hr) has the potential to emit 62 tons per year of a single HAP, hydrochloric acid (HCl). This calculation confirmed that Purdue University is a major source of HAPs. Since Purdue University is a major source of HAPs, IDEM, OAQ evaluated the source categories for which Purdue University requested an applicability determination.

SOURCE CATEGORY DETERMINATION

1. Various Research or Laboratory Activities

The applicability criteria for Section 112(j) requirements in 40 CFR 63.50(a)(1) contain an exemption from the Section 112(j) requirements for research or laboratory activities as defined in 40 CFR 63.51. The definition of "research or laboratory activities" in 40 CFR 63.51 includes three main criteria that must be met for the activity to be classified as a research or laboratory activity:

1. The primary purpose of the activity is to conduct research and development into new processes and products where such activity is operated under the close supervision of technically trained personnel;
2. The activity is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner; and
3. Where the source is not in a source category, specifically addressing research or laboratory activities, that is listed pursuant to section 112(c)(7) of the Clean Air Act.

Purdue University's activities that could be reasonably interpreted to fall within the following source categories meet the criteria of that definition:

- Combustion Turbines;
- Metal Can Surface Coating;
- Miscellaneous Coating Manufacturing;
- Miscellaneous Metal Parts and Products Surface Coating;
- Miscellaneous Organic Chemical Production and Processes;
- Paint Stripping Operations;
- Plastic Parts Surface Coating; and
- Plywood and Composite Wood Products.

The primary purposes of the activities at Purdue University within these source categories are to conduct research and development where such activities are operated under the close supervision of technically trained personnel. These activities include teaching and research activities associated with the educational nature of the university. The activities may be found as part of a laboratory class or as part of faculty or student research. The purpose of the activities is to promote learning through independent research and hands-on laboratory activities. The activities generate thought and new ideas that may eventually lead to new processes or products or knowledge. For example, students, laboratory technicians, and faculty at the university's Coatings Applications and Research Laboratory (CARL)

perform research and development of coatings technologies. The activities are operated under the close supervision of technically trained personnel such as professors, laboratory technicians, and upper level students with more experience.

The purpose of these activities at Purdue University is not to manufacture products for commercial sale in commerce. The activities do not produce products for commercial sale. Independent manufacturers provide the product samples in the form of specially cut coupons that are used by the researchers in CARL for coating using experimental coatings and experimental coating and curing procedures. The specially cut coupons do not function as products. After CARL is finished with the coupons, the coupons may or may not be returned to manufacturers for further testing by the manufacturers, and the manufacturers do not sell them.

None of the activities are in a source category specifically addressing research or laboratory activities that is listed pursuant to section 112(c)(7) of the Clean Air Act. The U.S. EPA has not yet completed a rulemaking pursuant to Section 112(c)(7) of the Clean Air Act to regulate research or laboratory activities. When U.S. EPA published an advance notice of proposed rulemaking to regulate research and development activities on May 12, 1997, the U.S. EPA focused on industrial research and development activities and indicated that they were not aware of other research and development sources that need to be added to the source category list. U.S. EPA indicated that they would need more information about other types of research and development sources to determine if those sources should be regulated by Section 112. U.S. EPA included universities in the list of those other types of research and development sources. Therefore, the preamble discussion from May 12, 1997 Federal Register indicates that the U.S. EPA considers university activities to fall within the scope of research and development activities and has not yet decided to regulate these activities.

Since Purdue University's activities within the list of source categories presented meet the criteria of research or laboratory activities, Purdue University's activities within these source categories are not subject to the requirements of Section 112(j), 40 CFR 63.50 through 63.56. Purdue University will not be required to submit a Part 2 MACT Application in accordance with 40 CFR 63.53(b) for these affected source categories.

2. Reciprocating Internal Combustion Engine NESHAP

IDEM, OAQ used the following information to determine if the reciprocating internal combustion engines at Purdue University belong to the affected source category, Reciprocating Internal Combustion Engines (RICE):

- The Part 1 Maximum Achievable Control Technology (MACT) Application;
- Supplemental information provided by Purdue University on October 15, 2002;
- The proposed rule from the December 19, 2002 *Federal Register*; and
- Background information available at the U.S. EPA Air Toxics Website at http://www.epa.gov/ttn/atw/combust/engine/ricepg.html and http://www.epa.gov/ttn/atw/112j/info/112(j)-table2.html.

There is no final MACT Standard for the RICE source category at this time. The proposed rule for this source category was published in the *Federal Register* on December 19, 2002. Section 63.6590(a) of the proposed rule defines the affected source to which the RICE MACT will apply as "any existing, new, or reconstructed stationary RICE located at a major source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand." Several criteria for exceptions for units that are included in the definition of affected source but that will not be subject to any of the requirements of the RICE MACT or the General Provisions at 40 CFR Part 63, Subpart A are listed in 40 CFR 63.6590(b) of the proposed rule, including: a compression ignition stationary RICE and a stationary RICE with a manufacturer's nameplate reading of less than or equal to 500 brake horsepower.

There are four types of stationary reciprocating internal combustion engines present at Purdue University:

- Engines powered by various fuels that are used in research and laboratory activities;
- Engines powered by various fuels that are used for education and teaching as part of classes;
- One diesel-fired generator, DG-3, rated at 1800 kilowatts (approximately 2414 horsepower), located at the Purdue University power plant; and
- Engines used solely for emergency service including:
  - Several compression ignition, diesel-fired generators – several rated at less than 500 horsepower, one rated at 536 horsepower, one rated at 671 horsepower, and one rated at 738 horsepower; and
  - Three natural gas-fired units rated at less than 90 kilowatts (approximately 120 horsepower) located at the Aquaculture Research Facility.

The engines used in research and laboratory activities and for education and teaching as part of classes at the University are exempt from Section 112(j) requirements in accordance with 40 CFR 63.50(a)(1). Refer to section number 1 in the Source Category Determination portion of this letter for more explanation regarding the exemption in 40 CFR 63.50(a)(1).

The diesel generator, DG-3, rated at approximately 2,414 horsepower, is a four-stroke, reciprocating internal combustion engine, rated at greater than 500 horsepower. While the engine is greater than 500 brake horsepower, it is fueled by diesel fuel and is therefore a compression ignition engine versus a spark ignition engine. The diesel generator, DG-3, does not belong to the RICE affected source category because of the exception in the proposed rule at 40 CFR 63.6590(b)(2)(i) for compression ignition RICE.

The engines used for emergency service that are rated at less than 500 horsepower do not belong to the RICE affected source category because of the exception in the proposed rule at 40 CFR 63.6590(b)(2)(ii) for engines rated at less than or equal to 500 brake horsepower. This includes the diesel generators used for emergency service that are rated at less than 500 horsepower and the three natural gas-fired engines located at the Aquaculture Research Facility.

The three compression ignition, diesel-fired engines used solely for emergency service rated at greater than 500 horsepower (i.e., three engines rated at 536, 671, and 738 horsepower) do not belong to the RICE affected source category because of the exception in the proposed rule at 40 CFR 63.6590(b)(2)(i) for compression ignition RICE.

Pursuant to 40 CFR 63.52(e)(2)(i), based on the information available at this time, IDEM, OAQ has determined that following processes and emissions units at Purdue University do not belong to the affected source category, Reciprocating Internal Combustion Engines:

- Engines powered by various fuels that are used in research and laboratory activities;
- Engines powered by various fuels that are used for education and teaching as part of classes;
- One diesel-fired generator, DG-3, rated at 1800 kilowatts (approximately 2414 horsepower), located at the Purdue University power plant; and
- Engines used solely for emergency service including:
  - Several compression ignition, diesel-fired generators – several rated at less than 500 horsepower, one rated at 536 horsepower, one rated at 671 horsepower, and one rated at 738 horsepower; and
  - Three natural gas-fired units rated at less than 90 kilowatts (approximately 120 horsepower) located at the Aquaculture Research Facility.

Purdue University will not be required to submit a Part 2 MACT Application in accordance with 40 CFR 63.53(b) for this affected source category. If Purdue University is subject to Section 112(j) for any other source categories not included in this applicability determination, Purdue University shall submit a Part 2 MACT Application for those source categories.

If U.S. EPA promulgates a final MACT standard prior to IDEM, OAQ issuing a permit containing the Section 112(j) determination requirements, a source is no longer subject to Section 112(j) for that source category, including the requirement to submit a Section 112(j) Part 2 MACT Application. A source is still subject to Section 112(j) for any other source categories that do not have promulgated MACT standards.

PROMULGATED MACT STANDARDS

The final MACT standards for the following source categories were promulgated since the Section 112(j) deadline:

- Brick and Structural Clay Products on May 16, 2003;
- Cellulose Production Manufacturing on October 18, 2002;
- Clay Ceramics Manufacturing on May 16, 2003;
- Engine Test Cells/Stands on May 27, 2003;
- Fabric Printing, Coating, and Dyeing on May 29, 2003;
- Flexible Polyurethane Foam Fabrication Operations on April 14, 2003;
- Friction Products Manufacturing on October 18, 2002;
- Generic MACT on July 12, 2002;
- Integrated Iron and Steel on May 20, 2003;
- Large Appliance Surface Coating on July 23, 2002;
- Metal Coil Surface Coating on June 10, 2002; and
- Metal Furniture Surface Coating on May 23, 2003;
- Paper and Other Web Surface Coating on December 4, 2002;
- Polyvinyl Chloride and Copolymers Production on July 10, 2002.
- Reinforced Plastics Composites Production on April 21, 2003; and
- Wood Building Products Surface Coating on May 28, 2003.

Since these MACTs were promulgated, the categories are no longer affected source categories subject to Section 112(j). While Purdue University is not subject to Section 112(j) for these source categories, Purdue University should check the applicability of the promulgated MACT standard. If the promulgated MACT is applicable:

(a) Purdue University shall comply with the promulgated MACT standard in accordance with the schedule provided in the MACT standard. The MACT requirements include the applicable General Provisions requirements of 40 CFR 63, Subpart A. Pursuant to 40 CFR 63.9(b), Purdue University shall submit an initial notification not later than 120 days after the effective date of the MACT, unless the MACT specifies otherwise.

(b) The MACT and the General Provisions of 40 CFR 63, Subpart A will become new applicable requirements, as defined by 326 IAC 2-7-1(6), that must be incorporated into the Part 70 permit.

This determination is based on the information provided by Purdue University, IDEM, OAQ records, and the information currently available from the U.S. EPA. Note that if additional equipment or capacity is added or operational practices are changed (e.g., switching solvents from a solvent that contains no HAPs to a solvent containing HAPs), the Section 112(j) requirements may be triggered in accordance with 40 CFR 63.52(b). If the events described in 40 CFR 63.52(b) occur at the source, Purdue University shall submit a Part 1 MACT Application in accordance with the requirements and schedule contained in 40 CFR 63.52(b).

Questions should be directed to Rebecca Mason or Kim Cottrell, IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, and ask for Rebecca

Mason at extension 3-9664 or Kim Cottrell at extension 3-0870, or dial (317) 233-9664 or (317) 233-0870.

Sincerely,

Original signed by
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

RM/KLC

CC: File - Tippecanoe County
Tippecanoe County Health Department
Air Compliance – Wanda Stanfield
Air Permits – Vickie Cordell
Administration Section
U.S. EPA Region V – Genevieve Damico

Ms. Robin Mills Ridgway
Purdue University
401 South Grant Street
West Lafayette, IN 47907-2024

Appendix A: Emission Calculations
Natural Gas Combustion Only
Utility Boiler

Boilers 1 and 2: four (4) auxiliary natural gas-fired burners at 70 MMBtu/hr each

Company Name: Purdue University
Address City IN Zip: West Lafayette, IN 47907-1665
Permit Number/Plt ID: T157-7340-00012
Reviewer: V. Cordell
Date: 14-May-04

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
280.0	2452.8

	Pollutant					
	PM*	PM10*	SO2	NOx*	VOC	CO
Emission Factor in lb/MMCF	6.2	14.0	0.6	200.0	8.0	146.0
Potential Emission in tons/yr	7.6	17.2	0.7	245.3	9.8	179.1
Emissions as limited @ 395 MMCF/yr	1.2	2.8	0.1	39.5	1.6	28.8

* Maufacturer-provided emission factor.

Methodology

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

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Emissions as limited @ 395 MMCF/yr = 395 MMCF/yr x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

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Natural Gas Combustion Only
Utility Boiler
HAPs Emissions

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Company Name: Purdue University
Address City IN Zip: West Lafayette, IN 47907-1665
Permit Number/Plt ID: T157-7340-00012
Reviewer: V. Cordell
Date: 14-May-04

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMCF	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.58E-03	1.47E-03	9.20E-02	2.21E+00	4.17E-03
Emissions as limited @ 395 MMCF/yr	0.00	0.00	0.01	0.35	0.00

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMCF	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	6.13E-04	1.35E-03	1.72E-03	4.66E-04	2.58E-03
Emissions as limited @ 395 MMCF/yr	0.00	0.00	0.00	0.00	0.00

Methodology is the same as page 1.

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