INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: July 9, 2010

RE: Purdue University / 157-27361-00012

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07

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Robin Mills Ridgway
Purdue University - West Lafayette
550 Stadium Mall Dr, Civil Engineering Bldg, B173
West Lafayette, IN 47907-2051

July 9, 2010

Re: 157-27361-00012
Significant Source Modification to Part 70 Source: 157-00012
Part 70 Operating Permit Renewal No.: T 157-27313-00012 (Pending)

Dear Ms. Ridgway:

Purdue University - West Lafayette was issued a Part 70 Operating Permit on June 30, 2004, for stationary boilers and other support facilities for the educational services operation, located at Purdue University. A letter requesting changes to this permit was received on January 13, 2009. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(a) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 6 is considered an affected source.

(b) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 7 is considered an affected source.

(c) One (1) limestone handling system for Boiler 6, permitted in 2010, with a nominal capacity of 12.5 tons/hr, including one (1) limestone pneumatic conveyor system, identified as LC6, from the truck unloading area or from the existing silo, identified as LS1, through an extension of the pneumatic system for the Boiler 5 day bin, identified as LI5, to the day bin for Boiler 6, identified as LI6, with emissions controlled by a bin vent exhausting to vent BVLI6.

The following emission unit and pollution control devices are to be decommissioned and removed from the source as part of this modification:

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a nominal 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).

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13 17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act – IC 4-21.5-3-5. If you have any questions on this matter, please contact Kimberly Cottrell, OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Kimberly Cottrell or extension (3-0870), or dial (317) 233-0870.

Sincerely,

Tripurari Sinha

Tripurari P. Sinha, Ph. D., Section Chief
Permits Branch
Office of Air Quality

Attachments:
Updated Permit
TSD Addendum
Technical Support Document
PTE Calculations

klc

cc: File – Tippecanoe County
Tippecanoe County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch

Mr. Robert E McMains
Purdue University - West Lafayette
401 S. Grant St., 1662 L. J. Freehafer Hall
West Lafayette, IN 47907-4024

David Jordan
ERM
11350 North Meridian, Suite 220
Carmel, IN 46032

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PART 70 SIGNIFICANT SOURCE MODIFICATION
OFFICE OF AIR QUALITY

Purdue University
401 S. Grant Street
Freehafer Hall of Administrative Services
West Lafayette, Indiana 47907-2024

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

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 addresses certain new source review requirements for new and existing equipment and is intended to fulfill the new source review procedures, pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.

Significant Source Modification No.: 157-27361-00012	
Issued by: Tripurari Sinha Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: July 9, 2010

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Attachment C: Standards of Performance for Coal Preparation Plants [326 IAC 12] [40 CFR Part 60, Subpart Y]

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.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 owns and operates stationary boilers and other support facilities for the educational services operation, located at Purdue University.

Source Address:	401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, Indiana 47907-2024
General Source Phone Number:	(765) 496-6405
SIC Code:	8221
County Location:	Tippecanoe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major, under PSD 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 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 nominal 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 nominal capacity of 274 MMBtu/hr, with a multi-cyclone collector and a multi-compartment baghouse 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) 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 nominal capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 NSPS (40 CFR 60, Subpart D), Boiler 3 is considered an affected source.

(d) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation started in 1989 and completed in 1991, with a nominal 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).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 5 is considered an affected source.

(e) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for carbon monoxide (C0), nitrogen oxides (NO_X), and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 6 is considered an affected source.

(f) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 7 is considered an affected source.

(g) One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a nominal capacity of 110 tons/hr, including: truck unloading station with two (2) hoppers; two (2) vibratory feeders; one (1) underground belt conveyor with a magnetic separator; and one (1) bucket elevator terminating at the top of Wade Utility Plant. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6, and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2) bunkers. The bunker for Boiler 1 and Boiler 6 exhausts to stack CB1. The bunker for Boiler 2 exhausts to CB2. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

(h) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a nominal capacity of 107 tons/hr, including: truck unloading 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 and one (1) Boiler 6 coal pre-crusher, 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 Utility Plant, with emissions from the final transfer point controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6, and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2) bunkers. The bunker for Boiler 1 and Boiler 6 exhausts to stack CB1. The bunker for Boiler 2 exhausts to CB2.

(i) One (1) outdoor coal storage pile area identified as COAL PILE 1, permitted in 1960 and 1996, with particulate matter emissions exhausting to the atmosphere.

(j) One (1) coal preparation system for Boiler 5, with installation completed in 1991, with a nominal capacity of 12.68 tons/hr, including: one (1) enclosed 125 ton/hr Redler conveyor with one (1) enclosed pre-crusher (both serving in a back-up capacity), one (1) 150 ton/hr enclosed belt conveyor and pre-crusher with installation completed in 2009. Both lines feed into; one (1) coal storage bunker, two (2) weigh belt feeders; and two (2) enclosed crushers with emission directed to a baghouse exhausting to stack CB5.

Under the Standards of Performance for Coal Preparation Plants NSPS (40 CFR 60, Subpart Y), the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 are considered affected sources.

(k) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 1 and Boiler 2, identified as ASH Segment 1, with a nominal capacity of 14 tons per hour (ton/hr), installed in approximately 1960 and modified in 2002. Ash/particulate matter collected from the primary, secondary and tertiary (baghouse) collection units are 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.

(l) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 5 and Boiler 6, identified as ASH Segment 2, installed in 1991 and modified in 2002, exhausting to stacks ASH5A and ASH5B, with a nominal capacity of 20 tons/hr, with dust from ash transfer to the storage silo controlled by primary and secondary separator with tertiary baghouse filter, ASH5D. Ash is transferred from the silo to trucks at a nominal 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, ASH5C.

(m) Material handling for the limestone injection system for Boiler 5, including pneumatic conveyance system, identified as LC5, from truck to bulk storage in a silo outside, identified as LS1, or to a "day bin", identified as LI5, inside the plant at an offload rate of approximately 12.5 tons per hour (ton/hr); gravity fed from day bin into Boiler 5. Particulate emissions are controlled by a baghouse, identified as LSBH1, on the silo and filter cartridges, identified as BVLI5, on the day bin.

(n) One (1) limestone handling system for Boiler 6, permitted in 2010, with a nominal capacity of 12.5 tons/hr, including one (1) limestone pneumatic conveyor system, identified as LC6, from the truck unloading area or from the existing silo, identified as LS1, through an extension of the pneumatic system for the Boiler 5 day bin, identified as LI5, to the day bin for Boiler 6, identified as LI6, with emissions controlled by the bin vent filters exhausting to vent BVLI6.

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

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

(q) 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 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 (100°F) or;

(2) Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F); 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) 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]

(h) Diesel and gasoline generators:

(1) One (1) BRK (nanotech) generator, with a nominal heat input rate of 3.4 MMBtu/hr.

(2) One (1) MJIS (biomed) generator, with a nominal heat input rate of 2.56 MMBtu/hr.

(3) Gasoline generators not exceeding one hundred ten (110) horsepower.

(4) Diesel generators not exceeding one thousand six hundred (1,600) horsepower.

(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 (lb/hr) or 25 pounds per day, NO_X 5 pounds per hour (lb/hr) or 25 pounds per day, CO 25 pounds per day, PM 5 pounds per hour (lb/hr) or 25 pounds per day, VOC 3 pounds per hour (lb/hr) or 15 pounds per day:

(1) One (1) No. 2 fuel oil fired poultry incinerator, installed in 2007, with an afterburner and a 70 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] [326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]

(a) The Part 70 Operating Permit Renewal, T 157-27313-00012, is issued for a fixed term of five (5) years 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 or of permits issued pursuant to Title IV of the Clan Air Act and 326 IAC 21 (Acid Deposition Control).

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

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

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

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7]

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.5 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.6 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.7 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.8 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

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

B.9 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(i) it contains a certification by a "responsible official", as defined by 326 IAC 2-7-1 (34), and

(ii) the certification states that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

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

B.10 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. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

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

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;

(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); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may be required to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

B.11 Preventive Maintenance Plan [326 IAC 2-7-5(13)] [326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(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.

The Permittee shall implement the PMPs.

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

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

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

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

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

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

The Permittee shall implement the PMPs.

(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. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 Emergency Provisions [326 IAC 2-7-16]

(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, no later than four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

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

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

no later than 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 a certification that meets the requirements of 326 IAC 2-7-6(1) by a "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) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(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.

B.13 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.14 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T157-7340-00012 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit, except for permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control).

B.16 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 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit.
[326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "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.17 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

(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 a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

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

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

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

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

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 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 the deadline specified pursuant to 326 IAC 2-7-4(a)(2)(D) in writing by IDEM, OAQ any additional information identified as being needed to process the application.

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

Any such application shall be certified by a "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.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 or notice 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 limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

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

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

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b), (c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(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 a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios Part 70 Operating Permit
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.

B.21 Source Modification Requirement [326 IAC 2-7-10.5] [326 IAC 2-2-2]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

B.22 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

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.23 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53, IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "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.24 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.25 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314] [326 IAC 1-1-6]

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

SECTION C **SOURCE OPERATION CONDITIONS**

Entire Source

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

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

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any manufacturing 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 (lb/hr) and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour (lb/hr).

C.2 Opacity [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6)-minute averaging period as determined in 326 IAC 5-1-4.

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

C.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.

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

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

C.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 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.7 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.8 Performance Testing [326 IAC 3-6]

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "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 a certification that meets the requirements of 326 IAC 2-7-6(1) 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.9 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.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

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

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

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

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "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.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

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

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

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

C.12 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 shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(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.13 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.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

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

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

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

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

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

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not necessarily limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records;

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [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 submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "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.16 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]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit no later than 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:

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

(b) 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 purpose 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
MC 61-50, IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(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, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial startup, whichever is later, to begin such record keeping.

(c) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b)) that a “project” (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Before beginning actual construction of the “project” (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1(mm)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(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, except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

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

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(d) The first report shall cover the period commencing on the date of issuance of this permit 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.

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C – General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll) at an existing Electric Utility Steam Generating Unit, then for that project the Permittee shall:

(1) Submit to IDEM, OAQ a copy of the information required by (c)(1) in Section C – General Record Keeping Requirements

(2) Submit a report to IDEM, OAQ within sixty (60) days after the end of each year during which records are generated in accordance with (d)(1) and (2) in Section C – General Record Keeping Requirements. The report shall contain all information and data describing the annual emissions for the emissions units during the calendar year that preceded the submission of report.

Reports required in this part shall be submitted to:

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

(f) The report for a project at an existing emissions unit other than Electric Utility Steam Generating Unit shall be submitted within sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C – General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3.

(4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction project.

Reports required in this part shall be submitted to:

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

(g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C - General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a nominal 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 nominal capacity of 274 MMBtu/hr, with a multi-cyclone collector and a multi-compartment baghouse 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).

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

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

D.1.1 Nitrogen Oxides Emission Limitation [326 IAC 2-2-4]

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 Boiler 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 British thermal units (lb/MMBtu) of 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 British thermal units (lb/MMBtu) heat input.
Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input.
N = Number of stacks in fuel burning operation.
a = 0.67
h = Stack height in feet.

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

D.1.3 SO_2 PSD Emission Limit [326 IAC 2-2-4]

(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 Boiler 1 and Boiler 2 shall be limited to 5.43 pounds per million British thermal units (lb/MMBtu) of heat input and to a total of 26.5 tons from Boiler 1 and Boiler 2 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 Boiler 1 and Boiler 2, 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 Boiler 1 and Boiler 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 Sulfur Dioxide Emission Limitations (SO_2) [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-1.1-2(a)(1), sulfur dioxide emissions from Boiler 1 and Boiler 2 shall not exceed six and zero-tenths (6.0) pound per million British thermal units (lb/MMBtu), using a calendar month average.

D.1.5 Retirement of Existing Operations [326 IAC 2-2]

Pursuant to 326 IAC 2-2, the Permittee shall permanently discontinue the operation of Boiler 1 within one hundred eighty (180) days of the startup date for either Boiler 6 or Boiler 7, whichever date is earlier. Boiler 6 may not operate until Boiler 1 has been permanently discontinued. NO_X emissions from Boiler 7 shall not exceed 40 tons during this period.

D.1.6 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 forty percent (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 emission control devices 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.1.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for Boiler 1 and Boiler 2 and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.8 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Compliance with the PM limitation for Boiler 1 and Boiler 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 the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

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

D.1.9 Particulate Control [326 IAC 2-7-6(6)] [40 CFR 64]

(a) Except as otherwise provided by statute or rule or in this permit, the multiclone and electrostatic precipitator (ESP) for Boiler 1 shall be in operation and control emissions at all times that the boiler, vented to that multiclone and ESP, is in operation.

(b) Except as otherwise provided by statute or rule or in this permit, the multiclone and baghouse for particulate control for Boiler 2 shall be in operation and control emissions at all times that the boiler, vented to that multiclone and baghouse, is in operation.

(c) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.10 Continuous Emissions Monitoring [326 IAC 3-5] [40 CFR 64]

(a) Pursuant to 326 IAC 3-5-1(c)(2)(A) (Continuous Monitoring of Emissions), continuous emission monitoring systems (CEMS) for Boiler 1 and Boiler 2 shall be calibrated, maintained, and operated for measuring opacity, which meet all applicable performance specifications of 326 IAC 3-5-2 and 40 CFR 64. For Boiler 1 and Boiler 2, the COMS shall be in operation in accordance with 326 IAC 3-5 and 40 CFR Part 60 when fuel is being combusted in the associated boiler.

(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 40 CFR 60.

D.1.11 Continuous Opacity Monitoring [326 IAC 3-5] [40 CFR 64]

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, 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 twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(c) Method 9 readings may be discontinued once a COMS is online.

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

D.1.12 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-2-1(c), 326 IAC 3-7, and Construction Permit PC (79) 1680, the Permittee shall demonstrate that the sulfur dioxide emissions from Boiler 1 and Boiler 2 do not exceed the emission limitations specified in Conditions D.1.3 and D.1.4, using the coal sampling and analysis data as follows:

(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) 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 instead of the fuel sampling and analysis required in (b). [326 IAC 7-2-1(g)]

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

D.1.13 Opacity Readings [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

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

(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 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 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, and adjustment of flue gas conditioning rate, and the baghouse being returned to service. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(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 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.

D.1.14 Electrostatic Precipitator Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS:

(a) The ability of the ESP to control particulate emissions from Boiler 1 shall be monitored once per day, 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. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A voltage or current reading outside the normal range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Boiler 1:

(1)	Primary voltage:	275 - 430 V
(2)	Secondary voltage:	29 - 45 kV
(3)	T-R set secondary current:	150 - 405 mA

D.1.15 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS:

(a) The Permittee shall record the pressure drop across the baghouse used in conjunction with Boiler 2, at least once per day when the process 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 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.16 Broken or Failed Bag Detection

For a multi-compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

D.1.17 SO_2 Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)] [326 IAC 3-7-2] [326 IAC 3-7-3]

Whenever coal sampling is not being performed and the SO_2 continuous emission monitoring system (CEMS) is being utilized to demonstrate compliance with the 24-hour emission limit for SO_2 in Condition D.1.3(a):

If the SO_2 continuous emission monitoring system (CEMS) is malfunctioning or down for repairs or adjustments, for twenty-four (24) hours or more, fuel sampling shall be conducted as specified in 326 IAC 3-7-2(b). Fuel sample preparation and analysis shall be conducted as specified in 326 IAC 3-7-2(c), 326 IAC 3-7-2(d), and 326 IAC 3-7-2(e). Pursuant to 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.

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

D.1.18 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 Boiler 1 and Boiler 2.

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

(b) To document compliance with Section C - Opacity and the particulate matter and opacity Conditions D.1.2, D.1.6, D.1.8, D.1.9, D.1.11, D.1.13, D.1.14, and D.1.15, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the limits in Section C - Opacity and Condition D.1.6.

(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 Method 9 visible emission readings taken during any periods of COM downtime.

(c) To document compliance with Condition D.1.14, the Permittee shall maintain daily records of the primary and secondary voltages and the currents of the transformer-rectifier (T-R) sets for the ESP for Boiler 1 whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(d) To document compliance with Condition D.1.15, the Permittee shall maintain daily records of the pressure drop across the baghouse for Boiler 2 whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(e) To document compliance with SO_2 Conditions D.1.3, D.1.4, D.1.12, and D.1.17, 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 and D.1.4.

(1) All fuel sampling and analysis data, pursuant to 326 IAC 7-2 or 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) Daily fuel usage for each of Boiler 1 and Boiler 2.

(f) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.1.19 Reporting Requirements

(a) A quarterly report of opacity exceedances shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "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 British thermal units (lb/MMBtu) and the total monthly coal consumption shall be submitted not later than thirty (30) days following the end of each calendar quarter. [326 IAC 7-2-1(c)(2]

The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) A quarterly report of the natural gas usage for Boiler 1 and Boiler 2 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Whenever coal sampling is not being performed and the SO_2 continuous emission monitoring system (CEMS) is being utilized to demonstrate compliance with the 24-hour emission limit for SO_2 in Condition D.1.3(a):

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 a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(d) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation completed in 1991, with a nominal 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).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 5 is considered an affected source.

(e) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for carbon monoxide (CO), nitrogen oxides (NO_X), and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 6 is considered an affected source.

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

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

D.2.1 Boiler 5 PSD Emission Limits [326 IAC 2-2-4]

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 from Boiler 5 shall not exceed:

(1) 0.9 pounds per million British thermal units (lb/MMBtu) of heat input based on a 30-day rolling weighted average basis, and

(2) 1.1 pounds per million British thermal units (lb/MMBtu) of heat input based on a block 24-hour average basis.

(b) Carbon monoxide emissions from Boiler 5 shall not exceed 0.27 pounds per million British thermal units (lb/MMBtu) of heat input.

D.2.2 PSD Minor Limits [326 IAC 2-2]

(a) Total CO emissions from Boiler 6 and Boiler 7 shall not exceed 257.13 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) NO_X emissions from Boiler 6 shall not exceed 242 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(c) PM emissions from Boiler 6 shall not exceed 36.30 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(d) PM_{10} emissions from Boiler 6 shall not exceed 169.40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(e) $PM_{2.5}$ emissions from Boiler 6 shall not exceed 169.40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(f) SO_2 emissions from Boiler 6 shall not exceed 1,379.40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(g) Be emissions from Boiler 6 shall not exceed 0.02569 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(h) H_2SO_4 emissions from Boiler 6 shall be less than 7.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits combined with the potential to emit Be, CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, and H_2SO_4, emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than 0.0004 tons per year of Be, less than one hundred (100) tons per year of CO, less than forty (40) tons per year of NO_X, less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, less than ten (10) tons per year of $PM_{2.5}$, less than forty (40) tons per year of SO_2, and less than seven (7) tons per year of H_2SO_4. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

D.2.3 HAP Minor Limit [326 IAC 2-4.1-1] [CAA Section 112(g)]

HCl emissions from Boiler 6 shall be less than 10.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with this emission limits combined with the potential to emit HCl and total HAP emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than ten (10) tons per year of HCl and less than twenty-five (25) tons per year of total HAP emissions. Therefore the requirements of 326 IAC 2-4.1-1, Major Sources of Hazardous Air Pollutants (HAP), and Section 112(g) of the Clean Air Act (CAA) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

D.2.4 Sulfur Dioxide Emission Limitations [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-1.1-2(a)(1), sulfur dioxide emissions from Boiler 5 and Boiler 6 shall not exceed six and zero-tenths (6.0) pound per million Btu (lb/MMBtu), using a calendar month average.

D.2.5 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 forty percent (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) When removing ashes from the fuel bed or furnace in a boiler or blowing tubes, opacity may exceed forty percent (40%); however, opacity shall not exceed sixty percent (60%) for any six (6)-minute averaging period and opacity in excess of forty percent (40%) shall not continue for more than one (1) six (6)-minute averaging period in any sixty (60)-minute period. The averaging periods shall not be permitted for more than three (3) six (6)-minute averaging periods in a twelve (12) hour period.

(c) 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.2.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for Boiler 5 and Boiler 6 and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.2.7 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) Compliance with the Boiler 5 CO limitation in Condition D.2.1(b) shall be determined by performance stack tests conducted using methods as approved by the Commissioner.

(b) Not later than 180 days after startup of Boiler 6, compliance with the Boiler 6 PM, Be, H_2SO_4, and HCl limitations in Conditions D.2.2 and D.2.3 shall be determined by performance stack tests conducted using methods as approved by the Commissioner.

(c) The Permittee shall perform PM_{10} and $PM_{2.5}$ testing of the WADE 01 Baghouse stack not later than 180 days after startup of Boiler 6 or 180 days after final promulgation of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers ($PM_{2.5}$), signed on May 8th, 2008, whichever date is later. This testing shall be conducted utilizing methods as approved by the Commissioner. PM_{10} and $PM_{2.5}$ includes filterable and condensable PM.

(d) This testing shall be repeated by December 31 of every second calendar year following the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

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

D.2.8 Compliance Determination Requirements [326 IAC 2-2]

(a) Except as otherwise provided by statute, rule, or this permit, circulating fluidized bed boilers with alkali injection shall be used as needed to maintain compliance with the sulfur dioxide emission limitations in Conditions D.2.1, D.2.2, and D.2.4 for Boiler 5 and Boiler 6.

(b) Compliance with the sulfur dioxide emission limits in Conditions D.2.1(a) and D.2.4 for Boiler 5 shall be determined on a 30-day rolling weighted average emission basis.

(c) Compliance with the block 24-hour average sulfur dioxide emission limitation in Condition D.2.1(a)(2) for Boiler 5 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) The Permittee shall determine compliance with the SO_2, and NO_X emission limitations for Boiler 6 in D.2.2(b) and (f) based on CEM data obtained pursuant to Condition D.2.9 - Continuous Emission Monitoring. The daily CEM data shall be used to calculate the 12 month rolling total and shall be rolled on a monthly basis.

(e) The following equation shall be used for demonstrating compliance with the PM, PM_{10}, $PM_{2.5}$, Be, and H_2SO_4 limits for Boiler 6 in D.2.2(c), (d), (f), (g), and (h):

$$E = U \times HV \times EF$$

Where:

E = Pollutant Emissions, tons/month
U = Coal Usage, tons coal/month
HV = Coal Heating Value, MMBtu/ton coal; Btu/lb x 2000 lb/ton/1,000,000 Btu/MMBtu
EF = Pollutant emission rate, ton/MMBtu; lb/MMBtu / 2000 lb/ton

EF_{PM} = 0.03 lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{PM10} = 0.14 lb/MMBtu or other value as determined during the last valid compliance demonstration
$EF_{PM2.5}$ = 0.14 lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{Be} = 2.12×10^{-5} lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{H2SO4} = 0.0055 lb/MMBtu or other value as determined during the last valid compliance demonstration

(f) The following equation shall be used for demonstrating compliance with the CO limit for Boiler 6 and Boiler 7 in D.2.2(a) and D.4.1(b):

$$E = CO_{B6} + \frac{[U \times HV \times EF_{CO\text{-}B7}]}{2000 \text{ lb/ton}}$$

Where:

E = Total CO Emissions, tons/month
CO_{B6} = CO Emissions, tons/month from Boiler 6 CO CEMS data
U = Natural Gas Usage, MMCF natural gas/month for Boiler 7
HV = Fuel Heating Value, Btu/CF natural gas;
$EF_{CO\text{-}B7}$ = 0.0379 lb/MMBtu or other value as determined during the last valid compliance demonstration

D.2.9 Compliance Determination Requirements [326 IAC 2-4.1] [CAA Section 112(g)]

The following equation shall be used for demonstrating compliance with the HCl limits for Boiler 6 in D.2.3:

$$E = U \times HV \times EF$$

Where:

E = Pollutant Emissions, tons/month
U = Coal Usage, tons coal/month
HV = Coal Heating Value, MMBtu/ton coal; Btu/lb x 2000 lb/ton/1,000,000 Btu/MMBtu
EF = Pollutant emission rate, ton/MMBtu; lb/MMBtu / 2000 lb/ton

EF_{HCl} = 0.00826 lb/MMBtu or other value as determined during the last valid compliance demonstration

D.2.10 Continuous Emissions Monitoring [326 IAC 3-5] [40 CFR 64]

(a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), opacity, SO_2, and NO_X continuous emission monitoring systems (CEMS) for Boiler 5 shall be calibrated, maintained, and operated for measuring opacity, SO_2, and NO_X which meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60. For Boiler 5, the Continuous Opacity Monitoring System (COMS) shall be in operation in accordance with 326 IAC 3-5 and 40 CFR Part 60 when fuel is being combusted in the boiler.

(b) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), opacity, CO, SO_2, and NO_X continuous emission monitoring systems (CEMS) for Boiler 6 shall be calibrated, maintained, and operated for measuring opacity, CO, SO_2, and NO_X which meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60. For Boiler 6, the Continuous Opacity Monitoring System (COMS) shall be in operation in accordance with 326 IAC 3-5 and 40 CFR Part 60 when fuel is being combusted in the boiler.

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

(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, 40 CFR 60, or 40 CFR 75.

D.2.11 Continuous Opacity Monitoring [326 IAC 3-5] [40 CFR 64]

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, 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 twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(c) Method 9 readings may be discontinued once a COMS is online.

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

D.2.12 Particulate Control [326 IAC 2-7-6(6)] [40 CFR 64]

(a) Except as otherwise provided by statute or rule or in this permit, the respective baghouses shall be operated at all times that Boiler 5 and Boiler 6 are in operation and coal is being combusted in the respective boiler.

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

D.2.13 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions from Boiler 5 and Boiler 6 do not exceed the equivalent of 6.0 pound per million British thermal units (lb/MMBtu) of 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) 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 instead of the fuel sampling and analysis required in (b). [326 IAC 7-2-1(g)]

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

D.2.14 Opacity Readings [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) For Boiler 5:

(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 – Response to Excursions or Exceedances 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 the baghouse 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 - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) For Boiler 6:

(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 - Response to Excursions or Exceedances 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, and adjustment of flue gas conditioning rate, and the baghouse 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 - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.2.15 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS:

(a) The Permittee shall record the pressure drop across the baghouse used in conjunction with Boiler 5, at least once per day when the process 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 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 - Response to Excursions or Exceedances.

(b) The Permittee shall record the pressure drop across the baghouse used in conjunction with Boiler 6, at least once per day when the process 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 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 - Response to Excursions or Exceedances.

(c) A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit. The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, and shall be calibrated or replaced in accordance with the manufacturer's specifications.

D.2.16 SO_2 Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)] [326 IAC 3-7-2] [326 IAC 3-7-3]

Whenever the SO_2 continuous emission monitoring system for Boiler 5 or Boiler 6 is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall:

(a) 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.

(b) Conduct fuel sampling as specified in 326 IAC 3-7-2(b). Fuel sample preparation and analysis shall be conducted as specified in 326 IAC 3-7-2(c), 326 IAC 3-7-2(d), and 326 IAC 3-7-2(e). Pursuant to 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.

D.2.17 NO_X Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)] [326 IAC 3-7-2] [326 IAC 3-7-3]

Whenever the NO_X continuous emission monitoring system for Boiler 5 or Boiler 6 is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall operate Boiler 5 or Boiler 6 in a manner consistent with best combustion practices.

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

Whenever the CO continuous emission monitoring system for Boiler 6 is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall operate Boiler 6 in a manner consistent with best combustion practices.

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.2.2, D.2.5, D.2.7, D.2.10, and D.2.11, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the particulate matter and opacity limits in Conditions D.2.2 and D.2.5.

(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 Method 9 visible emission readings taken during any periods of COM downtime.

(b) To document compliance with the SO_2 requirements in Conditions D.2.1, D.2.2, D.2.4, D.2.8, D.2.10, D.2.13, and D.2.16, 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 limits in Conditions D.2.1, D.2.2, and D.2.4. 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 and 326 IAC 7-2-1(g).

(2) All startup periods and shutdown periods for Boiler 5.

(3) All boiler load, fuel sampling and analysis, and limestone injection rate data collected for SO_2 CEMS downtime, in accordance with Conditions D.2.9 and D.2.14.

(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, D.2.8, and D.2.10, 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. Records shall be complete and sufficient to establish compliance with the NO_X limit in Condition D.2.2.

(d) To document compliance with the CO requirements in Conditions D.2.1(b) and D.2.7(a), the Permittee shall maintain data and results from the most recent stack test for Boiler 5. Records shall be complete and sufficient to establish compliance with the CO limit in Condition D.2.1(b).

(e) To document compliance with the CO requirements in Conditions D.2.2(a) and D.2.8(f), the Permittee shall maintain records of all CO continuous emissions monitoring data, pursuant to 326 IAC 3-5-6. Records shall be complete and sufficient to establish compliance with the CO limit in Condition D.2.2(a).

(f) To document compliance with the Be and H_2SO_4 requirements in Conditions D.2.2, D.2.7, and D.2.8, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the Be and H_2SO_4 limits in Condition D.2.2.

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

(2) Monthly coal usage.

(3) Coal higher heating value (HHV).

(g) To document compliance with the HCl requirements in Conditions D.2.3, D.2.7, and D.2.9, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the HCl limit in Condition D.2.3.

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

(2) Monthly coal usage.

(3) Coal higher heating value (HHV).

(h) To document compliance with Condition D.2.15, the Permittee shall maintain daily records of the pressure drop across the baghouses for Boiler 5 and Boiler 6 whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(i) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.2.20 Reporting Requirements

(a) A quarterly report of opacity exceedances and a quarterly summary of the information to document the compliance status with Conditions D.2.1(a), D.2.2, D.2.3, D.2.4, and D.2.5, shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) Pursuant to Condition D.2.8(c) regarding the block 24 hour average SO_2 emission limitation for Boiler 5, 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.

(c) 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.

(d) Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

The reports submitted by the Permittee require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(c) 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 nominal capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 NSPS (40 CFR 60, Subpart D), Boiler 3 is considered an affected source.

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

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

D.3.1 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 forty percent (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) When removing ashes from the fuel bed or furnace in a boiler or blowing tubes, opacity may exceed forty percent (40%); however, opacity shall not exceed sixty percent (60%) for any six (6)-minute averaging period and opacity in excess of forty percent (40%) shall not continue for more than one (1) six (6)-minute averaging period in any sixty (60)-minute period. The averaging periods shall not be permitted for more than three (3) six (6)-minute averaging periods in a twelve (12) hour period.

(c) 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.3.2 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 (lb/MMBtu), using a calendar month average, when combusting only distillate oil or a combination of only distillate oil and natural gas.

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for Boiler 3 and any emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.3.4 Continuous Emissions Monitoring [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), continuous emission monitoring systems for Boiler 3 shall be calibrated, maintained, and operated for measuring NO_X, which meet the 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) 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, 40 CFR 60, or 40 CFR 75.

D.3.5 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 limits specified in Condition D.3.2, 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)]

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

D.3.6 Record Keeping Requirements

(a) To document compliance with the opacity requirements in Condition D.3.1, the Permittee shall maintain records in accordance with (1) and (2) below. Records and shall be complete and sufficient to establish compliance with the opacity limits in Condition D.3.1.

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

(2) The opacity exceedances from COMS data or results of all daily Method 9 visible emission (VE) readings.

(b) To document compliance with the SO_2 requirements in Conditions D.3.2 and D.3.5, 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 Condition D.3.2.

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

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

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.3.7 Reporting Requirements

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:

(a) date of downtime;

(b) time of commencement;

(c) duration of each downtime;

(d) reasons for each downtime; and

(e) nature of system repairs and adjustments.

The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(f) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 7 is considered an affected source.

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

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

D.4.1 Boiler 7 PSD Minor Limits [326 IAC 2-2]

(a) The natural gas usage for Boiler 7 shall not exceed 2,491 million cubic feet (MMCF) per twelve (12) consecutive month period. Compliance with this limit shall be determined at the end of each month.

(b) Total CO emissions from Boiler 6 and Boiler 7 shall not exceed 257.13 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(c) NO_X emissions from Boiler 7 shall not exceed 0.049 pounds per million British thermal units (lb/MMBtu) of heat input.

(d) PM emissions from Boiler 7 shall not exceed 0.0019 pounds per million British thermal units (lb/MMBtu) of heat input.

(e) PM_{10} emissions from Boiler 7 shall not exceed 0.0075 pounds per million British thermal units (lb/MMBtu) of heat input.

(f) $PM_{2.5}$ emissions from Boiler 7 shall not exceed 0.0075 pounds per million British thermal units (lb/MMBtu) of heat input.

(g) SO_2 emissions from Boiler 7 shall not exceed 0.0006 pounds per million British thermal units (lb/MMBtu) of heat input.

Compliance with these emission limits combined with the potential to emit CO, NO_X, PM, PM_{10}, $PM_{2.5}$, and SO_2 emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than one hundred (100) tons per year of CO, less than forty (40) tons per year of NO_X, less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, less than ten (10) tons per year of $PM_{2.5}$, and less than forty (40) tons per year of SO_2. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

Compliance Determination Requirements

D.4.2 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Compliance with the CO limitation in Condition D.4.1(b) shall be determined by a performance stack test for Boiler 7 conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

D.4.3 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the CO limit for Boiler 6 and Boiler 7 in D.2.2(a) and D.4.1(b):

$$E = CO_{B6} + \frac{[U \times HV \times EF_{CO\text{-}B7}]}{2000 \text{ lb/ton}}$$

Where:

E = Total CO Emissions, tons/month
CO_{B6} = CO Emissions, tons/month from Boiler 6 CO CEMS data
U = Natural Gas Usage, MMCF natural gas/month for Boiler 7
HV = Fuel Heating Value, Btu/CF natural gas;
$EF_{CO\text{-}B7}$ = 0.0379 lb/MMBtu or other value as determined during the last valid compliance demonstration

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

D.4.4 Record Keeping Requirements

(a) To document compliance with the CO requirements in Conditions D.4.1(b), D.4.2, and D.4.3, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the CO limit in Condition D.4.1(b).

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

(2) Monthly natural gas usage.

(3) Natural gas heating value (HV).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.4.5 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.4.1(a) and D.4.1(b) shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(g) One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a nominal capacity of 110 tons/hr, including: truck unloading station with two (2) hoppers; two (2) vibratory feeders; one (1) underground belt conveyor with a magnetic separator; and one (1) bucket elevator terminating at the top of Wade Utility Plant. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6, and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2) bunkers. The bunker for Boiler 1 and Boiler 6 exhausts to stack CB1. The bunker for Boiler 2 exhausts to CB2. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

(h) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a nominal capacity of 107 tons/hr, including: truck unloading 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 and one (1) Boiler 6 coal pre-crusher, 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 Utility Plant, with emissions from the final transfer point controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6 and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2) bunkers. The bunker for Boiler 1 and Boiler 6 exhausts to stack CB1. The bunker for Boiler 2 exhausts to CB2.

(i) One (1) outdoor coal storage pile area identified as COAL PILE 1, permitted in 1960 and 1996, with particulate matter emissions exhausting to the atmosphere.

(j) One (1) coal preparation system for Boiler 5, with installation completed in 1991, with a nominal capacity of 12.68 tons/hr, including: one (1) enclosed 125 ton/hr Redler conveyor with one (1) enclosed pre-crusher (both serving in a back-up capacity), one (1) 150 ton/hr enclosed belt conveyor and pre-crusher with installation completed in 2009. Both lines feed into; one (1) coal storage bunker, two (2) weigh belt feeders; and two (2) enclosed crushers with emission directed to a baghouse exhausting to stack CB5.

Under the Standards of Performance for Coal Preparation Plants NSPS (40 CFR 60, Subpart Y), the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 are considered affected sources.

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

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

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

D.5.1 PSD Minor Limits for COAL Segment 1 and COAL Segment 2 [326 IAC 2-2]

(a) Total PM emissions from the coal storage and handling systems identified as COAL Segment 1 and COAL Segment 2 shall not exceed 8.0 tons of PM per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM_{10} emissions from the coal storage and handling systems identified as COAL Segment 1 and COAL Segment 2 shall not exceed 8.0 tons of PM_{10} per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) $PM_{2.5}$ emissions from the coal storage and handling systems identified as COAL Segment 1 and COAL Segment 2 shall not exceed 1.5 tons of $PM_{2.5}$ per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits combined with the potential to emit PM, PM_{10}, and $PM_{2.5}$ emissions from all other emission units associated with this modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including coal storage and handling systems, will limit the potential to emit from this modification to less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, and less than ten (10) tons per year of $PM_{2.5}$. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including coal storage and handling systems.

Compliance with these emission limits combined with the potential to emit PM and PM_{10} emissions from all other emission units associated with the 1996 modification to add COAL Segment 2, will limit the potential to emit from the 1996 modification to less than twenty-five (25) tons per year of PM and less than fifteen (15) tons per year of PM_{10}. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the 1996 modification to add COAL Segment 2.

D.5.2 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 (lb/hr) when operating at a process weight rate of 110 tons per hour (ton/hr), and the allowable particulate emission rate from the COAL Segment 2 shall not exceed 51.96 pounds per hour (lb/hr) when operating at a process weight rate of 107 tons per hour (ton/hr). Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour (lb/hr) shall be accomplished by use of the equation:

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

(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 (lb/hr) when operating at a process weight rate of 12.68 tons per hour (ton/hr). Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour (lb/hr) shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour (lb/hr); and
P = process weight rate in tons per hour (ton/hr).

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

A Preventive Maintenance Plan (PMP) is required for these facilities and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.5.4 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 Conditions D.5.1 and D.5.2, 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.

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

D.5.5 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the PM, PM_{10}, and $PM_{2.5}$ limits for COAL Segment 1 and COAL Segment 2 in D.5.1:

$$E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right) \times \left(\frac{1_ton}{2000_lb}\right)$$

Where:

E = Pollutant Emissions, tons/month
U = Coal Handled, tons coal/month
EF = Uncontrolled pollutant emission rate, lb/ton coal
CE = Control device efficiency, %
(for baghouses, CE = 99%; for rotoclones / multiclones, CE = 50%)
EF_{PM} = 0.862 lb/ton coal
EF_{PM10} = 0.408 lb/ton coal
$EF_{PM2.5}$ = 0.062 lb/ton coal

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

D.5.6 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 week during normal daylight operations when exhausting to the atmosphere. 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 week during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(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.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.

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

(a) The Permittee shall record the pressure drop across each of the baghouses used in conjunction with the coal transfer drop points at least once per week when coal is being transferred. When for any one reading, the pressure drop across baghouse CV1 or CV3 is outside the normal range of 4.0 and 10.0 inches of water or a range established during the latest stack test, or the pressure drop across baghouse CV2 is outside the normal range of 5.0 to 12.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

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

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

D.5.9 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 - Response to Excursions or Exceedances, 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.5.10 Record Keeping Requirements

(a) To document compliance with the PM, PM_{10}, and $PM_{2.5}$ requirements in Conditions D.5.1, and D.5.5, the Permittee shall maintain monthly records of the amount of coal handled. Records shall be complete and sufficient to establish compliance with the PM, PM_{10}, and $PM_{2.5}$ limits in Condition D.5.1.

(b) To document compliance with Condition D.5.6, the Permittee shall maintain records of the weekly visible emission notations of the coal unloading and coal transfer exhaust points. The Permittee shall include in its weekly record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (i.e., the process did not operate that week).

(c) To document compliance with Condition D.5.7 the Permittee shall maintain weekly records of the total static pressure drop across each baghouse. The Permittee shall include in its weekly record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (i.e., the process did not operate that week).

(d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.5.11 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.5.1 shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.6 FACILITY CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(k) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 1 and Boiler 2, identified as ASH Segment 1, with a nominal capacity of 14 tons per hour (ton/hr), installed in approximately 1960 and modified in 2002. Ash/particulate matter collected from the primary, secondary and tertiary (baghouse) collection units are 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.

(l) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 5 and Boiler 6, identified as ASH Segment 2, installed in 1991 and modified in 2002, exhausting to stacks ASH5A and ASH5B, with a nominal capacity of 20 tons/hr, with dust from ash transfer to the storage silo controlled by primary and secondary separator with tertiary baghouse filter, ASH5D. Ash is transferred from the silo to trucks at a nominal 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, ASH5C.

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

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

D.6.1 PSD Minor Limits for Ash Segment 2 [326 IAC 2-2-1]

Emissions from the ash handling equipment included in Ash Segment 1 associated with Boiler 1 and Boiler 2 shall be limited at all times the unit is handling ash as follows:

(a) Particulate matter (PM) emissions shall not exceed 5.71 pounds per hour (lb/hr).

(b) PM_{10} emissions shall not exceed 3.42 pounds per hour (lb/hr).

Compliance with these emission limits will limit the potential to emit from the modification to add the ash handling system identified as Ash Segment 1 to less than twenty-five (25) tons per year of PM and fifteen (15) tons per year of PM_{10}. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add the ash handling system identified as Ash Segment 1.

D.6.2 PSD Minor Limits for Ash Segment 2 [326 IAC 2-2]

(a) Total PM emissions from the ash handling equipment included in Ash Segment 2 associated with Boiler 5 and Boiler 6 shall be limited at all times the unit is handling ash to not exceed 6.0 tons of PM per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM_{10} emissions from the ash handling equipment included in Ash Segment 2 associated with Boiler 5 and Boiler 6 shall be limited at all times the unit is handling ash to not exceed 3.0 tons of PM_{10} per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) $PM_{2.5}$ emissions from the ash handling equipment included in Ash Segment 2 associated with Boiler 5 and Boiler 6 shall be limited at all times the unit is handling ash to not exceed 3.0 tons of $PM_{2.5}$ per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits combined with the potential to emit PM, PM_{10}, and $PM_{2.5}$ emissions from all other emission units associated with this modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including ash handling operations, will limit the potential to emit from this modification to less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, and less than ten (10) tons per year of $PM_{2.5}$. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including ash handling operations.

D.6.3 Particulate [326 IAC 6-3-2]

(a) Pursuant to 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 (lb/hr) when operating at a process weight rate of 14 tons per hour (ton/hr).

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the pneumatic ash handling system identified as ASH Segment 2 shall not exceed 30.5 pounds per hour (lb/hr) when operating at a process weight rate of 20 tons per hour (ton/hr).

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

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour (lb/hr); and
P = process weight rate in tons per hour (ton/hr).

(c) 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 for Ash Segment 2, 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.6.4 Preventative Maintenance Plan [326 IAC 2-7-5(1)(13)]

A Preventive Maintenance Plan (PMP) is required for the pneumatic ash handling systems identified as ASH Segment 1 and ASH Segment 2 and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.6.5 Particulate Control [326 IAC 2-7-10.5(d)(5)(C)]

(a) The fresh water/mixing operation for the ash truck loading system for ASH Segment 1 shall be in operation and control the particulate 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 particulate control, shall be in operation and control the particulate emissions from ash system at all times that the ash storage and handling system is in operation.

(c) Except as otherwise provided by statute or rule or in this permit, in order to comply with Condition D.6.2 (Particulate) related to ASH Segment 2, 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.

(d) The filter module and canister filters for the ASH Segment 2 dry ash loading system, for particulate control shall be in operation and control the particulate emissions at all times that the dry ash loading system is in operation.

D.6.6 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the PM, PM_{10}, and $PM_{2.5}$ limits for ASH Segment 2 in D.6.2:

$$E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right) \times \left(\frac{1_ton}{2000_lb}\right)$$

Where:

E = Pollutant Emissions, tons/month
U = Ash Handled, tons ash/month
EF = Uncontrolled pollutant emission rate, lb/ton ash
CE = Control device efficiency, %
(for baghouses, CE = 99%; for bin vents, CE = 99%)
EF_{PM} = 3.14 lb/ton ash
EF_{PM10} = 1.10 lb/ton ash
$EF_{PM2.5}$ = 1.10 lb/ton ash

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

D.6.7 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) Visible Emissions Notations:

(1) Visible emission notations of the ASH1 and AB1 exhaust stacks shall be performed once per day during normal daylight operations and when the silo is receiving ash.

(2) Visible emission notations of the ash truck loading system for ASH Segment 1 shall be performed once per day during normal daylight operations when the ash trucks are receiving ash.

(3) Visible emission notations for ASH Segment 2 of the ASH5A and ASH5B exhaust stacks shall be performed once per day during normal daylight operations when transferring ash.

(4) Visible emission notations for ASH Segment 2 of the exhaust vent, ASH5C, shall be performed once per day during normal daylight operations when transferring ash through the dry ash unloader.

A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.

D.6.8 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 (ASH1) and air filter (AB1) controlling emissions from the ash handling system for ASH Segment 1, at least once per day when the ash handling system is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 to 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 - Response to Excursions or Exceedances.

(b) The Permittee shall record the pressure drop across the ash silo baghouse for ASH Segment 2 at least once per week 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 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 - to Excursions or Exceedances.

(c) The Permittee shall record the pressure drop across the air filters controlling emissions from the ASH Segment 2 dry ash truck loading system (ASH5C), at least once per week 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 - to Excursions or Exceedances.

A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.6.9 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

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

D.6.10 Record Keeping Requirements

(a) To document the compliance status with the PM, PM_{10}, and $PM_{2.5}$ requirements in Conditions D.6.2, and D.6.6, the Permittee shall maintain monthly records of the amount of ash handled. Records shall be complete and sufficient to establish compliance with the PM, PM_{10}, and $PM_{2.5}$ limits in Condition D.6.2.

(b) To document compliance with Condition D.6.7, the Permittee shall maintain daily records of the visible emission notations of ASH1, AB-1, the ASH5A and ASH5B exhaust stacks, and the exhaust vent ASH5C. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

(c) To document compliance with Condition D.6.8, the Permittee shall maintain daily records of the total static pressure drop across each baghouse and air filter. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

(d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.6.11 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.6.2, shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(m) Material handling for the limestone injection system for Boiler 5, including pneumatic conveyance system, identified as LC5, from truck to bulk storage in a silo outside, identified as LS1, or to a "day bin", identified as LI5, inside the plant at an offload rate of approximately 12.5 tons per hour (ton/hr); gravity fed from day bin into Boiler 5. Particulate emissions are controlled by a baghouse, identified as LSBH1, on the silo and filter cartridges, identified as BVLI5, on the day bin.

(n) One (1) limestone handling system for Boiler 6, permitted in 2010, with a nominal capacity of 12.5 tons/hr, including one (1) limestone pneumatic conveyor system, identified as LC6, from the truck unloading area or from the existing silo, identified as LS1, through an extension of the pneumatic system for the Boiler 5 day bin, identified as LI5, to the day bin for Boiler 6, identified as LI6, with emissions controlled by the bin vent filters exhausting to vent BVLI6.

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.

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

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

D.7.1 PSD Minor Limits for Limestone Storage and Handling Operations [326 IAC 2-2]

(a) Total PM emissions from the limestone storage and handling equipment, LSBH1, BVLI5, and BVLI6, shall be limited at all times the unit is handling limestone to not exceed 6.0 tons of PM per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM_{10} emissions from the limestone storage and handling equipment, LSBH1, BVLI5, and BVLI6, shall be limited at all times the unit is handling limestone to not exceed 6.0 tons of PM_{10} per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) $PM_{2.5}$ emissions from the limestone storage and handling equipment, LSBH1, BVLI5, and BVLI6, shall be limited at all times the unit is handling limestone to not exceed 2.0 tons of $PM_{2.5}$ per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits combined with the potential to emit PM, PM_{10}, and $PM_{2.5}$ emissions from all other emission units associated with this modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, and less than ten (10) tons per year of $PM_{2.5}$. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

D.7.2 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 associated with Boiler 5 and Boiler 6 shall not exceed 22.17 pounds per hour (lb/hr) when operating at a process weight rate of 12.5 tons per hour (ton/hr).

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

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour (lb/hr); and
P = process weight rate in tons per hour (ton/hr).

D.7.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for the limestone storage and handling operations and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.7.4 Particulate Control [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, LSBH1, BVLI5, and BVLI6, for particulate control shall be in operation and control emissions at all times the associated limestone transfer points are in operation.

D.7.5 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the PM, PM_{10}, and $PM_{2.5}$ limits for the limestone storage and handling equipment in D.7.1:

$$E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right) \times \left(\frac{1_ton}{2000_lb}\right)$$

Where:
E = Pollutant Emissions, tons/month
U = Limestone Handled, tons limestone /month
EF = Uncontrolled pollutant emission rate, lb/ton limestone
CE = Control device efficiency, %
(for baghouses, CE = 99%; for bin vents, CE = 99%)
EF_{PM} = 2.2 lb/ton limestone
EF_{PM10} = 2.2 lb/ton limestone
$EF_{PM2.5}$ = 2.2 lb/ton limestone

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

D.7.6 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) Visible emission notations of the limestone handling systems exhaust point, identified as LSBH1, shall be performed once per week during normal daylight operations and when the silo is receiving limestone. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.

D.7.7 Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall record the pressure drop across the baghouse, identified as LSBH1, at least once per week 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 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 - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) The Permittee shall record the pressure drop across the bin vent filters, identified as BVLI5 and BVLI6, at least once per week when limestone is being transferred into the day bins. When for any one reading, the pressure drop across the bin vent filters 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 - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.7.8 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

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

D.7.9 Record Keeping Requirements

(a) To document the compliance status with the PM, PM_{10}, and $PM_{2.5}$ requirements in Conditions D.7.1, and D.7.5, the Permittee shall maintain monthly records of the amount of limestone handled. Records shall be complete and sufficient to establish compliance with the PM, PM_{10}, and $PM_{2.5}$ limits in Condition D.7.1.

(b) To document the compliance status with Condition D.7.6, the Permittee shall maintain weekly records of the visible emission notations of LSBH–1. The Permittee shall include in its weekly record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that week).

(c) To document the compliance status with Condition D.7.7, the Permittee shall maintain weekly records of the total static pressure drop across LSBH–1, BVLI–5, and BVLI–6. The Permittee shall include in its weekly record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that week).

(d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.7.10 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.7.1 shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.8 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

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

Insignificant Activities:

(1) One (1) No. 2 fuel oil fired poultry incinerator, installed in 2007, with an afterburner and a 70 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).

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

Emission Limitations and Standards [326 IAC 2-7-5(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 swine incinerator with a 100 lb/hr waste capacity, the poultry incinerator with a 70 lb/hr waste capacity, and 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 (lb/hr).

(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 (PMP) is required for these facilities and any emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

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

D.8.3 Record Keeping Requirements

Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

SECTION D.9 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

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

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

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

D.9.1 Source Modification Limits [326 IAC 2-7-10.5(d)(5)(D)] [326 IAC 2-2-1]

(a) The input of No. 2 fuel oil to the Black Start electric 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.

(b) NO_X emissions shall not exceed 3.2 lb/MMBtu.

Compliance with these emission limits will limit the potential to emit from the modification to add Black Start Generator (BSG) to less than 25 tons per year of NO_X; therefore, the requirements of 326 IAC 2-7-10.5(f), (g), and (h) (Significant Source Modifications), 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-1.1-4 (Federal Provisions) are not applicable to modification to add the Black Start Generator (BSG).

D.9.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for the Black Start electric generator, identified as BSG. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.

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

D.9.3 Record Keeping Requirements

(a) To document compliance with Condition D.9.1, the Permittee shall maintain records in accordance with (1) through (5) 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;

(4) The name of the fuel supplier; and

(5) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.9.4 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.9.1(a) shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.10 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

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.

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

Emission Limitations and Standards [326 IAC 2-7-5(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 British thermal units (lb/MMBtu) of heat input.

SECTION D.11 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(q) 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.

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

Emission Limitations and Standards [326 IAC 2-7-5(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, 326 IAC 7-1.1-2, and 326 IAC 7-2-1(c), the sulfur dioxide emissions from fuel combustion facilities shall not exceed five-tenths (0.5) pound per million Btu (lb/MMBtu), using a calendar month average, 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]

Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7-4 and in order to demonstrate compliance with Condition D.11.1, fuel sampling and analysis data shall be collected as follows:

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

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

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

(2) 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

SECTION D.12 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

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 (100°F) or;

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

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

Emission Limitations and Standards [326 IAC 2-7-5(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°C) (one hundred degrees Fahrenheit (100°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°C) (one hundred degrees Fahrenheit (100°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°C) (one hundred degrees Fahrenheit (100°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°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)]:

Insignificant Activities:
The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

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.

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

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

D.13.1 Particulate [326 IAC 6-3-2]

(a) 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 (lb/hr) and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour (lb/hr).

(b) 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 (lb/hr):

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

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour (lb/hr); and
P = process weight rate in tons per hour (ton/hr).

Compliance Determination Requirement

D.13.2 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.

SECTION E.1 Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12] [40 CFR 60, Subpart Db]

Emission Unit Description:

(c) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation completed in 1991, with a nominal 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).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 5 is considered an affected source.

(d) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 6 is considered an affected source.

(e) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 7 is considered an affected source.

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

New Source Performance Standards (NSPS) [326 IAC 12] [40 CFR 60]

E.1.1 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, Boiler 6, and Boiler 7 except when otherwise specified in 40 CFR Part 60, Subpart Db.

E.1.2 Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12] [40 CFR 60, Subpart Db]

Pursuant to 40 CFR 60, Subpart Db, the Permittee shall comply with the provisions of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, which are incorporated by reference as 326 IAC 12 for Boiler 5, Boiler 6, and Boiler 7 as specified as follows:

(a) Boiler 5 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b(a), (e), (g), and (i)
(4) 40 CFR 60.43b(a), (f), and (g)
(5) 40 CFR 60.44b(a), (h), and (i)
(6) 40 CFR 60.45b

(7) 40 CFR 60.46b
(8) 40 CFR 60.47b
(9) 40 CFR 60.48b
(10) 40 CFR 60.49b

(b) Boiler 6 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b(e), (g), and (k)(1)
(4) 40 CFR 60.43b(f), (g), and (h)(1)
(5) 40 CFR 60.44b(h), (i), and (l)(1)
(6) 40 CFR 60.45b
(7) 40 CFR 60.46b
(8) 40 CFR 60.47b
(9) 40 CFR 60.48b
(10) 40 CFR 60.49b

(c) Boiler 7 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b(k)(1-2)
(4) 40 CFR 60.44b(h), (i), and (l)(1)
(5) 40 CFR 60.46b
(6) 40 CFR 60.48b
(7) 40 CFR 60.49b

SECTION E.2 Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 [326 IAC 12] [40 CFR 60, Subpart D]

Emission Unit Description:

(b) 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 nominal capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 NSPS (40 CFR 60, Subpart D), Boiler 3 is considered an affected source.

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

New Source Performance Standards (NSPS) [326 IAC 12] [40 CFR 60]

E.2.1 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.

E.2.2 Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 [326 IAC 12] [40 CFR 60, Subpart D]

Pursuant to 40 CFR 60, Subpart D, the Permittee shall comply with the provisions of the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971, which are incorporated by reference as 326 IAC 12 for Boiler 3 as specified as follows:

(1) 40 CFR 60.40(a)(1) and (c)
(2) 40 CFR 60.41
(3) 40 CFR 60.42(a) and (c)
(4) 40 CFR 60.43(a)(1)and (b-d)
(5) 40 CFR 60.44(a)(1-2), (b), and (e)
(6) 40 CFR 60.45
(7) 40 CFR 60.46

E.2.3 Alternative Opacity Requirement [326 IAC 12] [40 CFR 60, Subpart D]

Pursuant to the U.S. EPA letter dated September 16, 2004, the Permittee may operate Boiler 3 without a continuous opacity monitoring (COM) system provided the following requirements are met:

(a) The usage of distillate fuel oil in Boiler 3 shall be limited to 500,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Any change in the type of fuel oil used in Boiler 3, other than distillate fuel oil and natural gas, must be approved by IDEM, OAQ.

(c) An observer certified in accordance with EPA Method 9 shall perform 6-minute visible emissions observations at least once per day during daylight hours when distillate fuel oil is burned in Boiler 3.

(d) If the average opacity for a 6-minute set of visible emissions observations made exceeds ten (10) percent, the observer shall collect two additional 6-minute sets of visible emissions observations for a total of three data sets. If excess emissions occur during the three 6-minute sets of visible emissions observations, the observer shall collect additional 6-minute sets of visible emissions observations until excess emissions do not occur during three (3) consecutive 6-minute sets of visible emissions observations. Boiler 3 may be repaired or adjusted before the additional visible emissions observations are conducted.

E.2.4 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition E.2.3 shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION E.3 Standards of Performance for Coal Preparation Plants [326 IAC 12] [40 CFR 60, Subpart Y]

Emission Unit Description:

(h) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a nominal capacity of 107 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 and one (1) Boiler 6 coal pre-crusher, 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 Utility Plant, with emissions from the final transfer point controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6, and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2) bunkers. The bunker for Boiler 1 and Boiler 6 exhaust to stack CB1. The bunker for Boiler 2 exhausts to CB2.

(j) One (1) coal preparation system for Boiler 5, with installation completed in 1991, with a nominal capacity of 12.68 tons/hr, including: one (1) enclosed 125 ton/hr Redler conveyor with one (1) enclosed pre-crusher (both serving in a back-up capacity), one (1) 150 ton/hr enclosed belt conveyor and pre-crusher with installation completed in 2009. Both lines feed into one (1) coal storage bunker, two (2) weigh belt feeders; and two (2) enclosed crushers with emission directed to a baghouse exhausting to stack CB5.

Under the Standards of Performance for Coal Preparation Plants NSPS (40 CFR 60, Subpart Y), the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 are considered affected sources.

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

New Source Performance Standards (NSPS) [326 IAC 12] [40 CFR 60]

E.3.1 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 preparation system for Boiler 5 including the crushers and COAL Segment 2 except when otherwise specified in 40 CFR Part 60, Subpart Y.

E.3.2 Standards of Performance for Coal Preparation Plants [326 IAC 12] [40 CFR 60, Subpart Y]

Pursuant to 40 CFR 60, Subpart Y, the Permittee shall comply with the provisions of the Standards of Performance for Coal Preparation Plants, which are incorporated by reference as 326 IAC 12 for the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 as specified as follows:

(1) 40 CFR 60.250
(2) 40 CFR 60.251
(3) 40 CFR 60.254
(4) 40 CFR 60.255
(5) 40 CFR 60.257
(6) 40 CFR 60.258

SECTION F Clean Air Interstate Rule (CAIR) Nitrogen Oxides Ozone Season Trading Programs – CAIR Permit for CAIR Units Under 326 IAC 24-3-1(a)

ORIS Code: 50240

CAIR Permit for CAIR Units Under 326 IAC 24-3-1(a)

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a nominal 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 nominal capacity of 274 MMBtu/hr, with a multi-cyclone collector and a multi-compartment baghouse 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) 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 nominal capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

(d) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation started in 1989 and completed in 1991, with a nominal 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).

(e) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

(f) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

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

F.1 Automatic Incorporation of Definitions [326 IAC 24-3-7(e)] [40 CFR 97.323(b)]

This CAIR permit is deemed to incorporate automatically the definitions of terms under 326 IAC 24-3-2.

F.2 Standard Permit Requirements [326 IAC 24-3-4(a)] [40 CFR 97.306(a)]

(a) The owners and operators of each CAIR NO_X ozone season source and CAIR NO_X ozone season unit shall operate each source and unit in compliance with this CAIR permit.

(b) The CAIR NO_X ozone season units subject to this CAIR permit are Boiler 1, Boiler 2, Boiler 3, Boiler 5, Boiler 6, and Boiler 7.

F.3 Monitoring, Reporting, and Record Keeping Requirements [326 IAC 24-3-4(b)] [40 CFR 97.306(b)]

(a) The owners and operators, and the CAIR designated representative, of each CAIR NO_X ozone season source and CAIR NO_X ozone season unit at the source shall comply with the applicable monitoring, reporting, and record keeping requirements of 326 IAC 24-3-11.

(b) The emissions measurements recorded and reported in accordance with 326 IAC 24-3-11 shall be used to determine compliance by each CAIR NO_X ozone season source with the CAIR NO_X ozone season emissions limitation under 326 IAC 24-3-4(c) and Condition F.4, Nitrogen Oxides Ozone Season Emission Requirements.

F.4 Nitrogen Oxides Ozone Season Emission Requirements [326 IAC 24-3-4(c)] [40 CFR 97.306(c)]

(a) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall hold, in the source's compliance account, CAIR NO_X ozone season allowances available for compliance deductions for the control period under 326 IAC 24-3-9(i) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_X ozone season units at the source, as determined in accordance with 326 IAC 24-3-11.

(b) A CAIR NO_X ozone season unit shall be subject to the requirements under 326 IAC 24-3-4(c)(1) for the control period starting on the applicable date, as determined under 326 IAC 24-3-4(c)(2), and for each control period thereafter.

(c) A CAIR NO_X ozone season allowance shall not be deducted for compliance with the requirements under 326 IAC 24-3-4(c)(1), for a control period in a calendar year before the year for which the CAIR NO_X ozone season allowance was allocated.

(d) CAIR NO_X ozone season allowances shall be held in, deducted from, or transferred into or among CAIR NO_X ozone season allowance tracking system accounts in accordance with 326 IAC 24-3-9, 326 IAC 24-3-10, and 326 IAC 24-3-12.

(e) A CAIR NO_X ozone season allowance is a limited authorization to emit one (1) ton of nitrogen oxides in accordance with the CAIR NO_X ozone season trading program. No provision of the CAIR NO_X ozone season trading program, the CAIR permit application, the CAIR permit, or an exemption under 326 IAC 24-3-3 and no provision of law shall be construed to limit the authority of the State of Indiana or the United States to terminate or limit the authorization.

(f) A CAIR NO_X ozone season allowance does not constitute a property right.

(g) Upon recordation by the U.S. EPA under 326 IAC 24-3-8, 326 IAC 24-3-9, 326 IAC 24-3-10, or 326 IAC 24-3-12, every allocation, transfer, or deduction of a CAIR NO_X ozone season allowance to or from a CAIR NO_X ozone season source's compliance account is incorporated automatically in this CAIR permit.

F.5 Excess Emissions Requirements [326 IAC 24-3-4(d)] [40 CFR 97.306(d)]

The owners and operators of a CAIR NO_X ozone season source and each CAIR NO_X ozone season unit that emits nitrogen oxides during any control period in excess of the CAIR NO_X ozone season emissions limitation shall do the following:

(a) Surrender the CAIR NO_X ozone season allowances required for deduction under 326 IAC 24-3-9(j)(4).

(b) Pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, the Clean Air Act (CAA) or applicable state law.

Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 326 IAC 24-3-4, the Clean Air Act (CAA), and applicable state law.

F.6 Record Keeping Requirements [326 IAC 24-3-4(e)] [326 IAC 2-7-5(3)] [40 CFR 97.306(e)]

Unless otherwise provided, the owners and operators of the CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall keep 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 from the date the document was created:

(a) The certificate of representation under 326 IAC 24-3-6(h) for the CAIR designated representative for the source and each CAIR NO_X ozone season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation. The certificate and documents shall be retained on site at the source or at a central location within Indiana for those owners or operators with unattended sources beyond such five (5) year period until such documents are superseded because of the submission of a new account certificate of representation under 326 IAC 24-3-6(h) changing the CAIR designated representative.

(b) All emissions monitoring information, in accordance with 326 IAC 24-3-11, provided that to the extent that 326 IAC 24-3-11 provides 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 CAIR NO_X ozone season trading program.

(d) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_X ozone season trading program or to demonstrate compliance with the requirements of the CAIR NO_X ozone season trading program.

This period may be extended for cause, at any time before the end of five (5) years, in writing by IDEM, OAQ or the U.S. EPA. Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

F.7 Reporting Requirements [326 IAC 24-3-4(e)] [40 CFR 97.306(e)]

(a) The CAIR designated representative of the CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall submit the reports required under the CAIR NO_X ozone season trading program, including those under 326 IAC 24-3-11.

(b) Pursuant to 326 IAC 24-3-4(e) and 326 IAC 24-3-6(e)(1), each submission under the CAIR NO_X ozone season trading program shall include the following certification statement by the CAIR designated representative: “I am authorized to make this submission on behalf of the owners and operators of the source or 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 24-3 requires a submission to IDEM, OAQ, the information shall be submitted to:

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

(d) Where 326 IAC 24-3 requires a submission to U.S. EPA, the information shall be submitted to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue, NW
Mail Code 6204N
Washington, DC 20460

F.8 Liability [326 IAC 24-3-4(f)] [40 CFR 97.306(f)]

The owners and operators of each CAIR NO_X ozone season source and each CAIR NO_X ozone season unit shall be liable as follows:

(a) Each CAIR NO_X ozone season source and each CAIR NO_X ozone season unit shall meet the requirements of the CAIR NO_X ozone season trading program.

(b) Any provision of the C CAIR NO_X ozone season trading program that applies to a CAIR NO_X ozone season source or the CAIR designated representative of a CAIR NO_X ozone season source shall also apply to the owners and operators of such source and of the CAIR NO_X ozone season units at the source.

(c) Any provision of the CAIR NO_X ozone season trading program that applies to a CAIR NO_X ozone season unit or the CAIR designated representative of a CAIR NO_X ozone season unit shall also apply to the owners and operators of such unit.

F.9 Effect on Other Authorities [326 IAC 24-3-4(g)] [40 CFR 97.306(g)]

No provision of the CAIR NO_X ozone season trading program, a CAIR permit application, a CAIR permit, or an exemption under 326 IAC 24-3-3 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_X ozone season source or CAIR NO_X ozone season unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act (CAA).

F.10 CAIR Designated Representative and Alternate CAIR Designated Representative [326 IAC 24-3-6] [40 CFR 97, Subpart BBBB]

Pursuant to 326 IAC 24-3-6:

(a) Except as specified in 326 IAC 24-3-6(f)(3), each CAIR NO_X ozone season source, including all CAIR NO_X ozone season units at the source, shall have one (1) and only one (1) CAIR designated representative, with regard to all matters under the CAIR NO_X ozone season trading program concerning the source or any CAIR NO_X ozone season unit at the source.

(b) The provisions of 326 IAC 24-3-6(f) shall apply where the owners or operators of a CAIR NO_X ozone season source choose to designate an alternate CAIR designated representative.

Except as specified in 326 IAC 24-3-6(f)(3), whenever the term "CAIR designated representative" is used, the term shall be construed to include the CAIR designated representative or any alternate CAIR designated representative.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Purdue University
Source Address: 401 S. Grant Street, Freehafer Hall of Administrative Services,West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012

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:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

100 North Senate Avenue
MC 61-53,, IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Purdue University
Source Address: 401 S. Grant Street, Freehafer Hall of Administrative Services,West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), no later than four (**4**) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance and Enforcement Branch); and
- The Permittee must submit notice in writing or by facsimile no later than two (**2**) days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

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

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

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

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? ☐ Y ☐ N Describe: Type of Pollutants Emitted: ☐ TSP ☐ PM-10 ☐ SO_2 ☐ VOC ☐ NO_X ☐ CO ☐ Pb ☐ other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

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

Boiler 1 and Boiler 2 Natural Gas Usage - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
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 with compliance determined at the end of each month.

YEAR: _____

Month	Natural Gas Usage for This Month (MMCF)	Natural Gas Usage for Previous 11 Months (MMCF)	Natural Gas Usage for 12-Month Period (MMCF)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 6 Be Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6
Parameter: Be Emissions
Limit: not more than 0.02569 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Be Emissions for This Month (tons)	Be Emissions for Previous 11 Months (tons)	Be Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 6 and Boiler 7 CO Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6 and Boiler 7
Parameter: CO Emissions
Limit: not more than 257.13 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	CO Emissions for This Month (tons)	CO Emissions for Previous 11 Months (tons)	CO Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 6 NO_X Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6
Parameter: NO_X Emissions
Limit: not more than 242.00 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	NO_X Emissions for This Month (tons)	NO_X Emissions for Previous 11 Months (tons)	NO_X Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 6 PM Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6
Parameter: PM Emissions
Limit: not more than 36.30 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	PM Emissions for This Month (tons)	PM Emissions for Previous 11 Months (tons)	PM Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 6 PM_{10} Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6
Parameter: PM_{10} Emissions
Limit: not more than 169.40 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	PM_{10} Emissions for This Month (tons)	PM_{10} Emissions for Previous 11 Months (tons)	PM_{10} Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 6 $PM_{2.5}$ Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6
Parameter: $PM_{2.5}$ Emissions
Limit: not more than 169.40 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	$PM_{2.5}$ Emissions for This Month (tons)	$PM_{2.5}$ Emissions for Previous 11 Months (tons)	$PM_{2.5}$ Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 6 SO_2 Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6
Parameter: SO_2 Emissions
Limit: not more than 1,379.40 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	SO_2 Emissions for This Month (tons)	SO_2 Emissions for Previous 11 Months (tons)	SO_2 Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 6 H_2SO_4 Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6
Parameter: H_2SO_4 Emissions
Limit: less than 7.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	H_2SO_4 Emissions for This Month (tons)	H_2SO_4 Emissions for Previous 11 Months (tons)	H_2SO_4 Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 6 HCl Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6
Parameter: HCl Emissions
Limit: less than 10.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	HCl Emissions for This Month (tons)	HCl Emissions for Previous 11 Months (tons)	HCl Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 7 Natural Gas Usage - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 7
Parameter: natural gas usage
Limit: not more than 2,491 MMCF per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Natural Gas Usage for This Month (tons)	Natural Gas Usage for Previous 11 Months (tons)	Natural Gas Usage for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Coal Handling PM Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Coal Handling Operations
Parameter: PM Emissions
Limit: not more than 8.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	PM Emissions for This Month (tons)	PM Emissions for Previous 11 Months (tons)	PM Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Coal Handling PM_{10} Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Coal Handling Operations
Parameter: PM_{10} Emissions
Limit: not more than 8.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	PM_{10} Emissions for This Month (tons)	PM_{10} Emissions for Previous 11 Months (tons)	PM_{10} Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Coal Handling $PM_{2.5}$ Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Coal Handling Operations
Parameter: $PM_{2.5}$ Emissions
Limit: not more than 1.5 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	$PM_{2.5}$ Emissions for This Month (tons)	$PM_{2.5}$ Emissions for Previous 11 Months (tons)	$PM_{2.5}$ Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Ash Handling PM Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Ash Segment 2
Parameter: PM Emissions
Limit: not more than 6.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	PM Emissions for This Month (tons)	PM Emissions for Previous 11 Months (tons)	PM Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Ash Handling PM_{10} Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Ash Segment 2
Parameter: PM_{10} Emissions
Limit: not more than 3.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	PM_{10} Emissions for This Month (tons)	PM_{10} Emissions for Previous 11 Months (tons)	PM_{10} Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Ash Handling $PM_{2.5}$ Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Ash Segment 2
Parameter: $PM_{2.5}$ Emissions
Limit: not more than 3.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	$PM_{2.5}$ Emissions for This Month (tons)	$PM_{2.5}$ Emissions for Previous 11 Months (tons)	$PM_{2.5}$ Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Limestone Storage and Handling PM Emissions
Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Limestone Storage and Handling (LSBH1, BVLI5, and BVLI6)
Parameter: PM Emissions
Limit: not more than 6.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	PM Emissions for This Month (tons)	PM Emissions for Previous 11 Months (tons)	PM Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Limestone Storage and Handling PM_{10} Emissions
Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Limestone Storage and Handling (LSBH1, BVLI5, and BVLI6)
Parameter: PM_{10} Emissions
Limit: not more than 6.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	PM_{10} Emissions for This Month (tons)	PM_{10} Emissions for Previous 11 Months (tons)	PM_{10} Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Limestone Storage and Handling $PM_{2.5}$ Emissions
Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Limestone Storage and Handling (LSBH1, BVLI5, and BVLI6)
Parameter: $PM_{2.5}$ Emissions
Limit: not more than 2.0 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	$PM_{2.5}$ Emissions for This Month (tons)	$PM_{2.5}$ Emissions for Previous 11 Months (tons)	$PM_{2.5}$ Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Fuel Oil-Fired Electric Generator (BSG) - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
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	No. 2 Fuel Oil Usage for This Month (gallons)	No. 2 Fuel Oil Usage for Previous 11 Months (gallons)	No. 2 Fuel Oil Usage for 12-Month Period (gallons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Boiler 3 Fuel Usage Limit - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: 286 MMBtu/hr Boiler (Boiler 3)
Parameter: distillate fuel oil usage (opacity)
Limit: The usage of distillate fuel oil in Boiler 3 shall be limited to 500,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Distillate Fuel Oil Usage for This Month (gallons)	Distillate Fuel Oil Usage for Previous 11 Months (gallons)	Distillate Fuel Oil Usage for 12-Month Period (gallons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Purdue University
Source Address: 401 S. Grant Street, Freehafer Hall of Administrative Services,West Lafayette, Indiana, 47907-2024
Part 70 Permit Renewal No.: T 157-27313-00012

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

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

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

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attachment A – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12] [40 CFR Part 60, Subpart Db]

Source Description and Location

Source Name:	Purdue University - West Lafayette
Source Location:	401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, IN 47907
County:	Tippecanoe
SIC Code:	8221
Operation Permit Renewal No.:	T 157-27313-00012
Permit Reviewer:	Kimberly Cottrell

NSPS [40 CFR Part 60, Subpart Db]

Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32742, June 13, 2007, unless otherwise noted.

§ 60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).

(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:

(1) Coal-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the particulate matter (PM) and nitrogen oxides (NO_X) standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are subject to the PM and NO_X standards under this subpart and to the sulfur dioxide (SO_2) standards under subpart D (§60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the NO_X standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are also subject to the NO_X standards under this subpart and the PM and SO_2standards under subpart D (§60.42 and §60.43).

(c) Affected facilities that also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; §60.104) are subject to the PM and NO_X standards under this subpart and the SO_2standards under subpart J (§60.104).

(d) Affected facilities that also meet the applicability requirements under subpart E (Standards of performance for incinerators; §60.50) are subject to the NO_X and PM standards under this subpart.

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; §60.40Da) are not subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing total reduced sulfur (TRS) as defined under §60.281 is not considered a modification under §60.14 and the steam generating unit is not subject to this subpart.

(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, the following authorities shall be retained by the Administrator and not transferred to a State.

(1) Section 60.44b(f).

(2) Section 60.44b(g).

(3) Section 60.49b(a)(4).

(h) Any affected facility that meets the applicability requirements and is subject to subpart Ea, subpart Eb, or subpart AAAA of this part is not covered by this subpart.

(i)

(i) Heat recovery steam generators that are associated with combined cycle gas turbines and that meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than 29 MW (100 MMBtu/hr) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(j) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, §60.40).

(k) Any affected facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart Cb or subpart BBBB of this part is not covered by this subpart.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

§ 60.41b Definitions.

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

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from the fuels listed in §60.42b(a), §60.43b(a), or §60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

Byproduct/waste means any liquid or gaseous substance produced at chemical manufacturing plants, petroleum refineries, or pulp and paper mills (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide (CO_2) levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purpose of this subpart.

Chemical manufacturing plants mean industrial plants that are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.

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

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

Cogeneration , also known as combined heat and power, means a facility that simultaneously produces both electric (or mechanical) and useful thermal energy from the same primary energy source.

Coke oven gas means the volatile constituents generated in the gaseous exhaust during the carbonization of bituminous coal to form coke.

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

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

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §60.17) or diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO_2control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline slurries or solutions used in dry flue gas desulfurization technology include but are not limited to lime and sodium.

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

Emerging technology means any SO_2control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under §60.49b(a)(4).

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

Fluidized bed combustion technology means combustion of fuel in a bed or series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials are forced upward by the flow of combustion air and the gaseous products of combustion.

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

Full capacity means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.

Gaseous fuel means any fuel that is a gas at ISO conditions. This includes, but is not limited to, natural gas and gasified coal (including coke oven gas).

Gross output means the gross useful work performed by the steam generated. For units generating only electricity, the gross useful work performed is the gross electrical output from the turbine/generator set. For cogeneration units, the gross useful work performed is the gross electrical or mechanical output plus 75 percent of the useful thermal output measured relative to ISO conditions that is not used to generate additional electrical or mechanical output or to enhance the performance of the unit (*i.e.* , steam delivered to an industrial process).

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

Heat release rate means the steam generating unit design heat input capacity (in MW or Btu/hr) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.

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

High heat release rate means a heat release rate greater than 730,000 J/sec-m^3 (70,000 Btu/hr-ft^3).

ISO Conditions means a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals.

Lignite means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17).

Low heat release rate means a heat release rate of 730,000 J/sec-m^3 (70,000 Btu/hr-ft^3) or less.

Mass-feed stoker steam generating unit means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

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

Municipal-type solid waste means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

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

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

Petroleum refinery means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.

Potential sulfur dioxide emission rate means the theoretical SO_2emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems. For gasified coal or oil that is desulfurized prior to combustion, the *Potential sulfur dioxide emission rate* is the theoretical SO_2emissions (ng/J or lb/MMBtu heat input) that would result from combusting fuel in a cleaned state without using any post combustion emission control systems.

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

Pulp and paper mills means industrial plants that are classified by the Department of Commerce under North American Industry Classification System (NAICS) Code 322 or Standard Industrial Classification (SIC) Code 26.

Pulverized coal-fired steam generating unit means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units. Residual oil means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Spreader stoker steam generating unit means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

Steam generating unit means a device that combusts any fuel or byproduct/waste and produces steam or heats water or heats any heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.

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

Very low sulfur oil means for units constructed, reconstructed, or modified on or before February 28, 2005, oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO_2emission control, has a SO_2emission rate equal to or less than 215 ng/J (0.5 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005 and not located in a noncontinental area, *very low sulfur oil* means oil that contains no more than 0.30 weight percent sulfur or that, when combusted without SO_2emission control, has a SO_2emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005 and located in a noncontinental area, *very low sulfur oil* means oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO_2emission control, has a SO_2emission rate equal to or less than 215 ng/J (0.50 lb/MMBtu) heat input.

Wet flue gas desulfurization technology means a SO_2control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO_2.

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

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

§ 60.42b Standard for sulfur dioxide (SO2).

(a) Except as provided in paragraphs (b), (c), (d), or (j) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential SO_2emission rate (90 percent reduction) and the emission limit determined according to the following formula:

$$E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$$

Where:

E_s= SO_2emission limit, in ng/J or lb/MMBtu heat input;

K_a= 520 ng/J (or 1.2 lb/MMBtu);

K_b= 340 ng/J (or 0.80 lb/MMBtu);

H_a= Heat input from the combustion of coal, in J (MMBtu); and

H_b= Heat input from the combustion of oil, in J (MMBtu).

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. 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 derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(b) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal refuse alone in a fluidized bed combustion steam generating unit shall cause to be discharged into the atmosphere any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) or 20 percent (0.20) of the potential SO_2emission rate (80 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. If coal or oil is fired with coal refuse, the affected facility is subject to paragraph (a) or (d) of this section, as applicable. For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. 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 derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(c) On and after the date on which the performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that combusts coal or oil, either alone or in combination with any other fuel, and that uses an emerging technology for the control of SO_2emissions, shall cause to be discharged into the atmosphere any gases that contain SO_2in excess of 50 percent of the potential SO_2emission rate (50 percent reduction) and that contain SO_2in excess of the emission limit determined according to the following formula:

$$E_s = \frac{(K_c H_c + K_d H_d)}{(H_c + H_d)}$$

Where:

E_s= SO2 emission limit, in ng/J or lb/MM Btu heat input;

K_c= 260 ng/J (or 0.60 lb/MMBtu);

K_d= 170 ng/J (or 0.40 lb/MMBtu);

H_c= Heat input from the combustion of coal, in J (MMBtu); and

H_d= Heat input from the combustion of oil, in J (MMBtu).

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. 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 from the heat input derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(d) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 and listed in paragraphs (d)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere any gases that contain SO_2in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/MMBtu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under paragraphs (d)(1), (2), (3) or (4) of this section. For facilities complying with paragraphs (d)(1), (2), or (3) of this section, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. 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 derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less;

(2) Affected facilities located in a noncontinental area; or

(3) Affected facilities combusting coal or oil, alone or in combination with any fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from the exhaust gases entering the duct burner; or

(4) The affected facility burns coke oven gas alone or in combination with natural gas or very low sulfur distillate oil.

(e) Except as provided in paragraph (f) of this section, compliance with the emission limits, fuel oil sulfur limits, and/or percent reduction requirements under this section are determined on a 30-day rolling average basis.

(f) Except as provided in paragraph (j)(2) of this section, compliance with the emission limits or fuel oil sulfur limits under this section is determined on a 24-hour average basis for affected facilities that (1) have a federally enforceable permit limiting the annual capacity factor for oil to 10 percent or less, (2) combust only very low sulfur oil, and (3) do not combust any other fuel.

(g) Except as provided in paragraph (i) of this section and §60.45b(a), the SO_2emission limits and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(h) Reductions in the potential SO_2emission rate through fuel pretreatment are not credited toward the percent reduction requirement under paragraph (c) of this section unless:

(1) Fuel pretreatment results in a 50 percent or greater reduction in potential SO_2emissions and

(2) Emissions from the pretreated fuel (without combustion or post-combustion SO_2control) are equal to or less than the emission limits specified in paragraph (c) of this section.

(i) An affected facility subject to paragraph (a), (b), or (c) of this section may combust very low sulfur oil or natural gas when the SO_2control system is not being operated because of malfunction or maintenance of the SO_2control system.

(j) Percent reduction requirements are not applicable to affected facilities combusting only very low sulfur oil. The owner or operator of an affected facility combusting very low sulfur oil shall demonstrate that the oil meets the definition of very low sulfur oil by: (1) Following the performance testing procedures as described in §60.45b(c) or §60.45b(d), and following the monitoring procedures as described in §60.47b(a) or §60.47b(b) to determine SO_2emission rate or fuel oil sulfur content; or (2) maintaining fuel records as described in §60.49b(r).

(k)(1) Except as provided in paragraphs (k)(2), (k)(3), and (k)(4) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, natural gas, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential SO_2emission rate (92 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. For facilities complying with the percent reduction standard and paragraph (k)(3) of this section, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in paragraph (k) of 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 derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(2) Units firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO_2emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO_2emissions limit in paragraph (k)(1) of this section.

(3) Units that are located in a noncontinental area and that combust coal, oil, or natural gas shall not discharge any gases that contain SO_2in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.50 lb/MMBtu) heat input if the affected facility combusts oil or natural gas.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

§ 60.43b Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 that 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 PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input, (i) If the affected facility combusts only coal, or

(ii) 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.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels greater than 10 percent (0.10) and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(3) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts coal or coal and other fuels and

(i) Has an annual capacity factor for coal or coal and other fuels of 30 percent (0.30) or less,

(ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for coal or coal and other solid fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, and before November 25, 1986.

(4) An affected facility burning coke oven gas alone or in combination with other fuels not subject to a PM standard under §60.43b and not using a post-combustion technology (except a wet scrubber) for reducing PM or SO_2emissions is not subject to the PM limits under §60.43b(a).

(b) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce SO_2emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(c) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor greater than 30 percent (0.30) for wood.

(2) 86 ng/J (0.20 lb/MMBtu) heat input if (i) The affected facility has an annual capacity factor of 30 percent (0.30) or less for wood;

(ii) Is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for wood; and

(iii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts municipal-type solid waste or mixtures of municipal-type solid waste with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input;

(i) If the affected facility combusts only municipal-type solid waste; or

(ii) If the affected facility combusts municipal-type solid waste and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts municipal-type solid waste or municipal-type solid waste and other fuels; and

(i) Has an annual capacity factor for municipal-type solid waste and other fuels of 30 percent (0.30) or less;

(ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less;

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for municipal-type solid waste, or municipal-type solid waste and other fuels; and

(iv) Construction of the affected facility commenced after June 19, 1984, but on or before November 25, 1986.

(e) 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 heat input capacity.

(f) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that can combust 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. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph.

(g) The PM and opacity standards apply at all times, except during periods of startup, shutdown, or malfunction.

(h)(1) Except as provided in paragraphs (h)(2), (h)(3), (h)(4), (h)(5), and (h)(6) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input,

(2) As an alternative to meeting the requirements of paragraph (h)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity of 73 MW (250 MMBtu/h) or less shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity greater than 73 MW (250 MMBtu/h) shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 37 ng/J (0.085 lb/MMBtu) heat input.

(5) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility not located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.30 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO_2or PM emissions is not subject to the PM limits in (h)(1) of this section.

(6) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.5 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO_2or PM emissions is not subject to the PM limits in (h)(1) of this section.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

§ 60.44b Standard for nitrogen oxides (NOX).

(a) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, 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 NO_X (expressed as NO_2) in excess of the following emission limits:

Fuel/steam generating unit type	Nitrogen oxide emission limits (expressed as NO_2) heat input	
	ng/J	lb/MMBTu
(1) Natural gas and distillate oil, except (4):		
(i) Low heat release rate	43	0.10
(ii) High heat release rate	86	0.20
(2) Residual oil:		
(i) Low heat release rate	130	0.30
(ii) High heat release rate	170	0.40
(3) Coal:		
(i) Mass-feed stoker	210	0.50
(ii) Spreader stoker and fluidized bed combustion	260	0.60
(iii) Pulverized coal	300	0.70
(iv) Lignite, except (v)	260	0.60
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace	340	0.80
(vi) Coal-derived synthetic fuels	210	0.50
(4) Duct burner used in a combined cycle system:		
(i) Natural gas and distillate oil	86	0.20
(ii) Residual oil	170	0.40

(b) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, 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 NO_X in excess of a limit determined by the use of the following formula:

$$E_n = \frac{(EL_{go}H_{go}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{go} + H_{ro} + H_c)}$$

Where:

E_n= NO_X emission limit (expressed as NO_2), ng/J (lb/MMBtu);

EL_{go}= Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

H_{go}= Heat input from combustion of natural gas or distillate oil, J (MMBtu);

EL_{ro}= Appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/MMBtu);

H_{ro}= Heat input from combustion of residual oil, J (MMBtu);

EL_c= Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

H_c= Heat input from combustion of coal, J (MMBtu).

(c) Except as provided under paragraph (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, or a mixture of these fuels with natural gas, and wood, municipal-type solid waste, or any other fuel shall cause to be discharged into the atmosphere any gases that contain NO_X in excess of the emission limit for the coal or oil, or mixtures of these fuels with natural gas combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section, unless the affected facility has an annual capacity factor for coal or oil, or mixture of these fuels with natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, or a mixture of these fuels with natural gas.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts natural gas with wood, municipal-type solid waste, or other solid fuel, except coal, shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X in excess of 130 ng/J (0.30 lb/MMBtu) heat input unless the affected facility has an annual capacity factor for natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas.

(e) Except as provided under paragraph (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere any gases that contain NO_X in excess of the emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

$$E_n = \frac{(EL_{go}H_{go}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{go} + H_{ro} + H_c)}$$

Where:

E_n= NO_X emission limit (expressed as NO_2), ng/J (lb/MMBtu);

EL_{go}= Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

H_{go}= Heat input from combustion of natural gas, distillate oil and gaseous byproduct/waste, J (MMBtu);

EL_{ro}= Appropriate emission limit from paragraph (a)(2) for combustion of residual oil and/or byproduct/waste, ng/J (lb/MMBtu);

H_{ro}= Heat input from combustion of residual oil, J (MMBtu);

EL_c= Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

H_c= Heat input from combustion of coal, J (MMBtu).

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a NO_X emission limit that shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as NO_X emissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific NO_X emission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, by conducting a 30-day performance test as provided in §60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The NO_X emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific NO_X emission limit will be established at the NO_X emission level achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing NO_X emissions. In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO_X limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40 CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility for a waiver from compliance with the NO_X emission limit that applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on NO_X emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the affected facility is able to comply with the NO_X emission limits required by this section. The owner or operator of the affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement preclude compliance with the NO_X emission limits of this section. The NO_X emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, are applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70 for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).) In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO_X limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(h) For purposes of paragraph (i) of this section, the NO_X standards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

(1) Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;

(2) Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and

(3) Are subject to a federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j)(1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 MMBtu/hr) or less, are not subject to the NO_X emission limits under this section.

(l) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction or reconstruction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X (expressed as NO_2) in excess of the following limits:

(1) If the affected facility combusts coal, oil, natural gas, a mixture of these fuels, or a mixture of these fuels with any other fuels: A limit of 86 ng/J (0.20 lb/MMBtu) heat input unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas; or

(2) If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input on a 30-day rolling average from the combustion of all fuels, a limit determined by use of the following formula:

$$E_n = \frac{(0.10 \times H_g) + (0.20 \times H_r)}{(H_g + H_r)}$$

Where:

E_n= NO_X emission limit, (lb/MMBtu);

H_{go}= 30-day heat input from combustion of natural gas or distillate oil; and

H_r= 30-day heat input from combustion of any other fuel.

(3) After February 27, 2006, units where more than 10 percent of total annual output is electrical or mechanical may comply with an optional limit of 270 ng/J (2.1 lb/MWh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of §60.48Da(i) of subpart Da of this part, and must monitor emissions according to §60.49Da(c), (k), through (n) of subpart Da of this part.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

§ 60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The SO_2emission standards in §60.42b apply at all times. Facilities burning coke oven gas alone or in combination with any other gaseous fuels or distillate oil are allowed to exceed the limit 30 operating days per calendar year for SO_2control system maintenance.

(b) In conducting the performance tests required under §60.8, the owner or operator shall use the methods and procedures in appendix A (including fuel certification and sampling) of this part or the methods and procedures as specified in this section, except as provided in §60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential SO_2emission rate (% P_s) and the SO_2emission rate (E_s) pursuant to §60.42b following the procedures listed below, except as provided under paragraph (d) and (k) of this section.

(1) The initial performance test shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the SO_2standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

(2) If only coal, only oil, or a mixture of coal and oil is combusted, the following procedures are used:

(i) The procedures in Method 19 of appendix A–7 of this part are used to determine the hourly SO_2emission rate (E_{ho}) and the 30-day average emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS of §60.47b(a) or (b).

(ii) The percent of potential SO_2emission rate (%P_s) emitted to the atmosphere is computed using the following formula:

$$\%P_s = 100\left(1 - \frac{\%R_g}{100}\right)\left(1 - \frac{\%R_f}{100}\right)$$

Where:

%P_s= Potential SO_2emission rate, percent;

%R_g= SO_2removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$= SO_2removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(3) If coal or oil is combusted with other fuels, the same procedures required in paragraph (c)(2) of this section are used, except as provided in the following:

(i) An adjusted hourly SO_2emission rate (E_{ho}^o) is used in Equation 19–19 of Method 19 of appendix A of this part to compute an adjusted 30-day average emission rate (E_{ao}^o). The Eho° is computed using the following formula:

$$E_{ho}^{\circ} = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

Where:

E_{ho}^o = Adjusted hourly SO_2emission rate, ng/J (lb/MMBtu);

E_{ho}= Hourly SO_2emission rate, ng/J (lb/MMBtu);

E_w= SO_2concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value $E_w$for each fuel lot is used for each hourly average during the time that the lot is being combusted; and

X_k= Fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(ii) To compute the percent of potential SO_2emission rate ($\%P_s$), an adjusted $\%R_g$($\%R_g^o$) is computed from the adjusted E_{ao}^o from paragraph (b)(3)(i) of this section and an adjusted average SO_2inlet rate (E_{ai}^o) using the following formula:

$$\%R_g^{\circ} = 100\left(1.0 - \frac{E_{ao}^{\circ}}{E_{ai}^{\circ}}\right)$$

To compute E_{ai}^o , an adjusted hourly SO_2inlet rate (E_{hi}^o) is used. The E_{hi}^o is computed using the following formula:

$$E_{hi}^{\circ} = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

E_{hi}^o = Adjusted hourly SO_2inlet rate, ng/J (lb/MMBtu); and

E_{hi}= Hourly SO_2inlet rate, ng/J (lb/MMBtu).

(4) The owner or operator of an affected facility subject to paragraph (c)(3) of this section does not have to measure parameters $E_w$or $X_k$if the owner or operator elects to assume that X_k= 1.0. Owners or operators of affected facilities who assume X_k= 1.0 shall:

(i) Determine $\%P_s$following the procedures in paragraph (c)(2) of this section; and

(ii) Sulfur dioxide emissions (E_s) are considered to be in compliance with SO_2emission limits under §60.42b.

(5) The owner or operator of an affected facility that qualifies under the provisions of §60.42b(d) does not have to measure parameters $E_w$or $X_k$in paragraph (c)(3) of this section if the owner or operator of the affected facility elects to measure SO_2emission rates of the coal or oil following the fuel sampling and analysis procedures in Method 19 of appendix A–7 of this part.

(d) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility that combusts only very low sulfur oil, natural gas, or a mixture of these fuels, has an annual capacity factor for oil of 10 percent (0.10) or less, and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for oil of 10 percent (0.10) or less shall:

(1) Conduct the initial performance test over 24 consecutive steam generating unit operating hours at full load;

(2) Determine compliance with the standards after the initial performance test based on the arithmetic average of the hourly emissions data during each steam generating unit operating day if a CEMS is used, or based on a daily average if Method 6B of appendix A of this part or fuel sampling and analysis procedures under Method 19 of appendix A of this part are used.

(e) The owner or operator of an affected facility subject to §60.42b(d)(1) shall demonstrate the maximum design capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. This demonstration will be made during the initial performance test and a subsequent demonstration may be requested at any other time. If the 24-hour average firing rate for the affected facility is less than the maximum design capacity provided by the manufacturer of the affected facility, the 24-hour average firing rate shall be used to determine the capacity utilization rate for the affected facility, otherwise the maximum design capacity provided by the manufacturer is used.

(f) For the initial performance test required under §60.8, compliance with the SO_2emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for $SO_2$for the first 30 consecutive steam generating unit operating days, except as provided under paragraph (d) of this section. The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

(g) After the initial performance test required under §60.8, compliance with the SO_2emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for $SO_2$for 30 successive steam generating unit operating days, except as provided under paragraph (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 $SO_2$are calculated to show compliance with the standard.

(h) Except as provided under paragraph (i) of this section, the owner or operator of an affected facility shall use all valid SO_2emissions data in calculating $\%P_s$and E_{ho}under paragraph (c), of this section whether or not the minimum emissions data requirements under §60.46b are achieved. All valid emissions data, including valid SO_2emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating $\%P_s$and E_{ho}pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the SO_2control systems when oil is combusted as provided under §60.42b(i), emission data are not used to calculate $\%P_s$or $E_s$under §60.42b(a), (b) or (c), however, the emissions data are used to determine compliance with the emission limit under §60.42b(i).

(j) The owner or operator of an affected facility that only combusts very low sulfur oil, natural gas, or a mixture of these fuels with any other fuels not subject to an SO_2standard is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r).

(k) The owner or operator of an affected facility seeking to demonstrate compliance in §§60.42b(d)(4), 60.42b(j), 60.42b(k)(2), and 60.42b(k)(3) (when not burning coal) shall follow the applicable procedures in §60.49b(r).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

§ 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

(a) The PM emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction. The NO_X emission standards under §60.44b apply at all times.

(b) Compliance with the PM emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) of this section.

(c) Compliance with the NO_X emission standards under §60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.

(d) To determine compliance with the PM emission limits and opacity limits under §60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, using the following procedures and reference methods:

(1) Method 3A or 3B of appendix A–2 of this part is used for gas analysis when applying Method 5 of appendix A–3 of this part or Method 17 of appendix A–6 of this part.

(2) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

(ii) Method 17 of appendix A–6 of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of this part may be used in Method 17 of appendix A–6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A–6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.

(3) Method 1 of appendix A of this part is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(4) For Method 5 of appendix A of this part, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160±14 °C (320±25 °F).

(5) For determination of PM emissions, the oxygen (O_2) or CO_2sample is obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(6) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rate expressed in ng/J heat input is determined using:

(i) The O_2or CO_2measurements and PM measurements obtained under this section;

(ii) The dry basis F factor; and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(7) Method 9 of appendix A of this part is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for NO_X required under §60.44b, the owner or operator of an affected facility shall conduct the performance test as required under §60.8 using the continuous system for monitoring NO_X under §60.48(b).

(1) For the initial compliance test, NO_X from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NO_X emission standards under §60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2) Following the date on which the initial performance test is completed or is required to be completed in §60.8, whichever date comes first, the owner or operator of an affected facility which combusts coal (except as specified under §60.46b(e)(4)) or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the NO_X emission standards in §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 for each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.

(3) Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity greater than 73 MW (250 MMBtu/hr) and that combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the NO_X standards under §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 NO_X emission data for the preceding 30 steam generating unit operating days.

(4) Following the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBtu/hr) or less and that combusts natural gas, distillate oil, gasified coal, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the NO_X standards in §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NO_X emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the NO_X emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility that combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in §60.49b(e), the requirements of §60.48b(g)(1) apply and the provisions of §60.48b(g)(2) are inapplicable.

(f) To determine compliance with the emissions limits for NO_X required by §60.44b(a)(4) or §60.44b(l) for duct burners used in combined cycle systems, either of the procedures described in paragraph (f)(1) or (2) of this section may be used:

(1) The owner or operator of an affected facility shall conduct the performance test required under §60.8 as follows:

(i) The emissions rate (E) of NO_X shall be computed using Equation 1 in this section:

$$E = E_{sg} + \left(\frac{H_g}{H_b}\right)\left(E_{sg} - E_g\right) \qquad \text{(Eq.1)}$$

Where:

E = Emissions rate of NO_X from the duct burner, ng/J (lb/MMBtu) heat input;

E_{sg}= Combined effluent emissions rate, in ng/J (lb/MMBtu) heat input using appropriate F factor as described in Method 19 of appendix A of this part;

H_g= Heat input rate to the combustion turbine, in J/hr (MMBtu/hr);

H_b= Heat input rate to the duct burner, in J/hr (MMBtu/hr); and

E_g= Emissions rate from the combustion turbine, in ng/J (lb/MMBtu) heat input calculated using appropriate F factor as described in Method 19 of appendix A of this part.

(ii) Method 7E of appendix A of this part shall be used to determine the NO_X concentrations. Method 3A or 3B of appendix A of this part shall be used to determine O_2concentration.

(iii) The owner or operator shall identify and demonstrate to the Administrator's satisfaction suitable methods to determine the average hourly heat input rate to the combustion turbine and the average hourly heat input rate to the affected duct burner.

(iv) Compliance with the emissions limits under §60.44b(a)(4) or §60.44b(l) is determined by the three-run average (nominal 1-hour runs) for the initial and subsequent performance tests; or

(2) The owner or operator of an affected facility may elect to determine compliance on a 30-day rolling average basis by using the CEMS specified under §60.48b for measuring NO_X and $O_2$and meet the requirements of §60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NO_X emissions rate at the outlet from the steam generating unit shall constitute the NO_X emissions rate from the duct burner of the combined cycle system.

(g) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall demonstrate the maximum heat input capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. The owner or operator of an affected facility shall determine the maximum heat input capacity using the heat loss method or the heat input method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1 (incorporated by reference, see §60.17). This demonstration of maximum heat input capacity shall be made during the initial performance test for affected facilities that meet the criteria of §60.44b(j). It shall be made within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of each facility, for affected facilities meeting the criteria of §60.44b(k). Subsequent demonstrations may be required by the Administrator at any other time. If this demonstration indicates that the maximum heat input capacity of the affected facility is less than that stated by the manufacturer of the affected facility, the maximum heat input capacity determined during this demonstration shall be used to determine the capacity utilization rate for the affected facility. Otherwise, the maximum heat input capacity provided by the manufacturer is used.

(h) The owner or operator of an affected facility described in §60.44b(j) that has a heat input capacity greater than 73 MW (250 MMBtu/hr) shall:

(1) Conduct an initial performance test as required under §60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the NO_X emission standards under §60.44b using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the NO_X emission standards under §60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the PM limit in paragraphs §60.43b(a)(4) or §60.43b(h)(5) shall follow the applicable procedures in §60.49b(r).

(j) In place of PM testing with Method 5 or 5B of appendix A–3 of this part, or Method 17 of appendix A–6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall comply with the requirements specified in paragraphs (j)(1) through (j)(14) of this section.

(1) Notify the Administrator one month before starting use of the system.

(2) Notify the Administrator one month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (j) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraphs (j)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (j)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (j)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O_2(or CO_2) data shall be collected concurrently (or within a 30-to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall be used; and

(ii) After July 1, 2010 or after Method 202 of appendix M of part 51 has been revised to minimize artifact measurement and notice of that change has been published in theFederal Register,whichever is later, for condensable PM emissions, Method 202 of appendix M of part 51 shall be used; and

(iii) For O_2(or CO_2), Method 3A or 3B of appendix A–2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours per 30-day rolling average.

(14) After July 1, 2011, within 90 days after completing a correlation testing run, the owner or operator of an affected facility shall either successfully enter the test data into EPA's WebFIRE data base located at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main* or mail a copy to: United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; Mail Code: D243–01; RTP, NC 27711.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

§ 60.47b Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (b) and (f) of this section, the owner or operator of an affected facility subject to the SO_2standards in §60.42b shall install, calibrate, maintain, and operate CEMS for measuring SO_2concentrations and either O_2or CO_2concentrations and shall record the output of the systems. For units complying with the percent reduction standard, the $SO_2$and either O_2or CO_2concentrations shall both be monitored at the inlet and outlet of the SO_2control device. If the owner or operator has installed and certified $SO_2$and O_2or CO_2CEMS according to the requirements of §75.20(c)(1) of this chapter and appendix A to part 75 of this chapter, and is continuing to meet the ongoing quality assurance requirements of §75.21 of this chapter and appendix B to part 75 of this chapter, those CEMS may be used to meet the requirements of this section, provided that:

(1) When relative accuracy testing is conducted, SO_2concentration data and CO_2(or O_2) data are collected simultaneously; and

(2) In addition to meeting the applicable $SO_2$and CO_2(or O_2) relative accuracy specifications in Figure 2 of appendix B to part 75 of this chapter, the relative accuracy (RA) standard in section 13.2 of Performance Specification 2 in appendix B to this part is met when the RA is calculated on a lb/MMBtu basis; and

(3) The reporting requirements of §60.49b are met. $SO_2$and CO_2(or O_2) data used to meet the requirements of §60.49b shall not include substitute data values derived from the missing data procedures in subpart D of part 75 of this chapter, nor shall the SO_2data have been bias adjusted according to the procedures of part 75 of this chapter.

(b) As an alternative to operating CEMS as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2emissions and percent reduction by:

(1) 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 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO_2input rate, or

(2) Measuring SO_2according to Method 6B of appendix A of this part at the inlet or outlet to the SO_2control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable $SO_2$and CO_2measurement 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 of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 or 3B of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part 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 of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily SO_2emission rate, E_D, shall be determined using the procedure described in Method 6A of appendix A of this part, section 7.6.2 (Equation 6A–8) and stated in ng/J (lb/MMBtu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/MMBtu) for 30 successive steam generating unit operating days using equation 19–20 of Method 19 of appendix A of this part.

(c) 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 this section.

(d) The 1-hour average SO_2emission rates measured by the CEMS required by paragraph (a) of this section and required under §60.13(h) is expressed in ng/J or lb/MMBtu heat input and is used to calculate the average emission rates under §60.42(b). Each 1-hour average SO_2emission rate must be based on 30 or more minutes of steam generating unit operation. The hourly averages shall be calculated according to §60.13(h)(2). Hourly SO_2emission rates are not calculated if the affected facility is operated less than 30 minutes in a given clock hour and are not counted toward determination of a steam generating unit operating day.

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) Except as provided for in paragraph (e)(4) of this section, all CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Except as provided for in paragraph (e)(4) of this section, quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities combusting coal or oil, alone or in combination with other fuels, the span value of the SO_2CEMS at the inlet to the SO_2control device is 125 percent of the maximum estimated hourly potential SO_2emissions of the fuel combusted, and the span value of the CEMS at the outlet to the SO_2control device is 50 percent of the maximum estimated hourly potential SO_2emissions of the fuel combusted. Alternatively, SO_2span values determined according to section 2.1.1 in appendix A to part 75 of this chapter may be used.

(4) As an alternative to meeting the requirements of requirements of paragraphs (e)(1) and (e)(2) of this section, the owner or operator may elect to implement the following alternative data accuracy assessment procedures:

(i) For all required $CO_2$and O_2monitors and for $SO_2$and NO_X monitors with span values greater than or equal to 100 ppm, the daily calibration error test and calibration adjustment procedures described in sections 2.1.1 and 2.1.3 of appendix B to part 75 of this chapter may be followed instead of the CD assessment procedures in Procedure 1, section 4.1 of appendix F to this part.

(ii) For all required $CO_2$and O_2monitors and for $SO_2$and NO_X monitors with span values greater than 30 ppm, quarterly linearity checks may be performed in accordance with section 2.2.1 of appendix B to part 75 of this chapter, instead of performing the cylinder gas audits (CGAs) described in Procedure 1, section 5.1.2 of appendix F to this part. If this option is selected: The frequency of the linearity checks shall be as specified in section 2.2.1 of appendix B to part 75 of this chapter; the applicable linearity specifications in section 3.2 of appendix A to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.2.3 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.2.4 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the cylinder gas audits described in Procedure 1, section 5.1.2 of appendix F to this part shall be performed for $SO_2$and NO_X span values less than or equal to 30 ppm; and

(iii) For SO_2, CO_2, and O_2monitoring systems and for NO_X emission rate monitoring systems, RATAs may be performed in accordance with section 2.3 of appendix B to part 75 of this chapter instead of following the procedures described in Procedure 1, section 5.1.1 of appendix F to this part. If this option is selected: The frequency of each RATA shall be as specified in section 2.3.1 of appendix B to part 75 of this chapter; the applicable relative accuracy specifications shown in Figure 2 in appendix B to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.3.2 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.3.3 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the relative accuracy specification in section 13.2 of Performance Specification 2 in appendix B to this part shall be met on a lb/MMBtu basis for SO_2(regardless of the SO_2emission level during the RATA), and for NO_X when the average NO_X emission rate measured by the reference method during the RATA is less than 0.100 lb/MMBtu.

(f) The owner or operator of an affected facility that combusts very low sulfur oil or is demonstrating compliance under §60.45b(k) is not subject to the emission monitoring requirements under paragraph (a) of this section if the owner or operator maintains fuel records as described in §60.49b(r).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009]

§ 60.48b Emission monitoring for particulate matter and nitrogen oxides.

(a) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility subject to the opacity standard under §60.43b shall install, calibrate, maintain, and operate a continuous opacity monitoring systems (COMS) for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard under §60.43b and meeting the conditions under paragraphs (j)(1), (2), (3), (4), or (5) of this section who elects not to install a COMS shall conduct a performance test using Method 9 of appendix A–4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43b and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. If during the initial 60 minutes of observation all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent, the observation period may be reduced from 3 hours to 60 minutes.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A–4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 30 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A–7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A–7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.* , 90 seconds per 30 minute period) the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.* , 90 seconds) or conduct a new Method 9 of appendix A–4 of this part performance test using the procedures in paragraph (a) of this section within 30 calendar days according to the requirements in §60.46d(d)(7).

(ii) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a NO_X standard under §60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate CEMS for measuring NO_X and O_2(or CO_2) emissions discharged to the atmosphere, and shall record the output of the system; or

(2) If the owner or operator has installed a NO_X emission rate CEMS to meet the requirements of part 75 of this chapter and is continuing to meet the ongoing requirements of part 75 of this chapter, that CEMS may be used to meet the requirements of this section, except that the owner or operator shall also meet the requirements of §60.49b. Data reported to meet the requirements of §60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of this chapter, nor shall the data have been bias adjusted according to the procedures of part 75 of this chapter.

(c) The CEMS required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average NO_X emission rates measured by the continuous NO_X monitor required by paragraph (b) of this section and required under §60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.44b. The 1-hour averages shall be calculated using the data points required under §60.13(h)(2).

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

(1) For affected facilities combusting coal, wood or municipal-type solid waste, the span value for a COMS shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for NO_X is determined using one of the following procedures:

(i) Except as provided under paragraph (e)(2)(ii) of this section, NO_X span values shall be determined as follows:

Fuel	**Span values for NO_X (ppm)**
Natural gas	500.
Oil	500.
Coal	1,000.
Mixtures	500 (x + y) + 1,000z.

Where:

x = Fraction of total heat input derived from natural gas;

y = Fraction of total heat input derived from oil; and

z = Fraction of total heat input derived from coal.

(ii) As an alternative to meeting the requirements of paragraph (e)(2)(i) of this section, the owner or operator of an affected facility may elect to use the NO_X span values determined according to section 2.1.2 in appendix A to part 75 of this chapter.

(3) All span values computed under paragraph (e)(2)(i) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm. Span values computed under paragraph (e)(2)(ii) of this section shall be rounded off according to section 2.1.2 in appendix A to part 75 of this chapter.

(f) When NO_X emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of this part, Method 7A of appendix A of this part, 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.

(g) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBtu/hr) or less, and that has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, gasified coal, or any mixture of these fuels, greater than 10 percent (0.10) shall:

(1) Comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of this section; or

(2) Monitor steam generating unit operating conditions and predict NO_X emission rates as specified in a plan submitted pursuant to §60.49b(c).

(h) The owner or operator of a duct burner, as described in §60.41b, that is subject to the NO_X standards in §60.44b(a)(4), §60.44b(e), or §60.44b(l) is not required to install or operate a continuous emissions monitoring system to measure NO_X emissions.

(i) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) is not required to install or operate a CEMS for measuring NO_X emissions.

(j) The owner or operator of an affected facility that meets the conditions in either paragraph (j)(1), (2), (3), (4), (5), or (6) of this section is not required to install or operate a COMS if:

(1) The affected facility uses a PM CEMS to monitor PM emissions; or

(2) The affected facility burns only liquid (excluding residual oil) or gaseous fuels with potential SO_2emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and does not use a post-combustion technology to reduce SO_2or PM emissions. The owner or operator must maintain fuel records of the sulfur content of the fuels burned, as described under §60.49b(r); or

(3) The affected facility burns coke oven gas alone or in combination with fuels meeting the criteria in paragraph (j)(2) of this section and does not use a post-combustion technology to reduce SO_2or PM emissions; or

(4) The affected facility does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a steam generating unit operating day average basis. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (j)(4)(i) through (iv) of this section; or

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (j)(4)(i)(A) through (D) of this section.

(A) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(B) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(C) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(D) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(ii) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(iii) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(iv) You must record the CO measurements and calculations performed according to paragraph (j)(4) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(5) The affected facility uses a bag leak detection system to monitor the performance of a fabric filter (baghouse) according to the most recent requirements in section §60.48Da of this part; or

(6) The affected facility burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

(k) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.46b(j). The CEMS specified in paragraph §60.46b(j) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009]

§ 60.49b Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by §60.7. This notification shall include:

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

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i);

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

(4) Notification that an emerging technology will be used for controlling emissions of SO_2. The Administrator will examine the description of the emerging technology and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42b(a) unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO_2, PM, and/or NO_X emission limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B of this part. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

(c) The owner or operator of each affected facility subject to the NO_X standard in §60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions in the provisions of §60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored in §60.48b(g)(2) and the records to be maintained in §60.49b(g). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. An affected facility burning coke oven gas alone or in combination with other gaseous fuels or distillate oil shall submit this plan to the Administrator for approval within 360 days of the initial startup of the affected facility or by November 30, 2009, whichever date comes later. If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and NO_X emission rates (*i.e.* , ng/J or lbs/MMBtu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (*i.e.* , the ratio of primary air to secondary and/or tertiary air) and the level of excess air (*i.e.* , flue gas O_2level);

(2) Include the data and information that the owner or operator used to identify the relationship between NO_X emission rates and these operating conditions; and

(3) Identify how these operating conditions, including steam generating unit load, will be monitored under §60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under §60.49b(g).

(d) Except as provided in paragraph (d)(2) of this section, the owner or operator of an affected facility shall record and maintain records as specified in paragraph (d)(1) of this section.

(1) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(2) As an alternative to meeting the requirements of paragraph (d)(1) of this section, the owner or operator of an affected facility that is subject to a federally enforceable permit restricting fuel use to a single fuel such that the facility is not required to continuously monitor any emissions (excluding opacity) or parameters indicative of emissions may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(e) For an affected facility that combusts residual oil and meets the criteria under §§60.46b(e)(4), 60.44b(j), or (k), the owner or operator shall maintain records of the nitrogen content of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content for the reporting period. The nitrogen content shall be determined using ASTM Method D4629 (incorporated by reference, see §60.17), or fuel suppliers. If residual oil blends are being combusted, fuel nitrogen specifications may be prorated based on the ratio of residual oils of different nitrogen content in the fuel blend.

(f) For an affected facility subject to the opacity standard in §60.43b, the owner or operator shall maintain records of opacity. In addition, an owner or operator that elects to monitor emissions according to the requirements in §60.48b(a) shall maintain records according to the requirements specified in paragraphs (f)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (f)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (f)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the NO_X standards under §60.44b shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The average hourly NO_X emission rates (expressed as NO_2) (ng/J or lb/MMBtu heat input) measured or predicted;

(3) The 30-day average NO_X emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;

(4) Identification of the steam generating unit operating days when the calculated 30-day average NO_X emission rates are in excess of the NO_X emissions standards under §60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;

(7) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h)(1) or (2) of this section is required to submit excess emission reports for any excess emissions that occurred during the reporting period.

(1) Any affected facility subject to the opacity standards in §60.43b(f) or to the operating parameter monitoring requirements in §60.13(i)(1).

(2) Any affected facility that is subject to the NO_X standard of §60.44b, and that:

(i) Combusts natural gas, distillate oil, gasified coal, or residual oil with a nitrogen content of 0.3 weight percent or less; or

(ii) Has a heat input capacity of 73 MW (250 MMBtu/hr) or less and is required to monitor NO_X emissions on a continuous basis under §60.48b(g)(1) or steam generating unit operating conditions under §60.48b(g)(2).

(3) For the purpose of §60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under §60.43b(f).

(4) For purposes of §60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average NO_X emission rate, as determined under §60.46b(e), that exceeds the applicable emission limits in §60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for NO_X under §60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.

(j) The owner or operator of any affected facility subject to the SO_2standards under §60.42b shall submit reports.

(k) For each affected facility subject to the compliance and performance testing requirements of §60.45b and the reporting requirement in paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates covered in the reporting period;

(2) Each 30-day average SO_2emission rate (ng/J or lb/MMBtu heat input) measured during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken; For an exceedance due to maintenance of the SO_2control system covered in paragraph 60.45b(a), the report shall identify the days on which the maintenance was performed and a description of the maintenance;

(3) Each 30-day average percent reduction in SO_2emissions calculated during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(4) Identification of the steam generating unit operating days that coal or oil was combusted and for which SO_2or diluent (O_2or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken;

(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit;

(6) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(7) Identification of times when hourly averages have been obtained based on manual sampling methods;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3;

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part; and

(11) The annual capacity factor of each fired as provided under paragraph (d) of this section.

(l) For each affected facility subject to the compliance and performance testing requirements of §60.45b(d) and the reporting requirements of paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates when the facility was in operation during the reporting period;

(2) The 24-hour average SO_2emission rate measured for each steam generating unit operating day during the reporting period that coal or oil was combusted, ending in the last 24-hour period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(3) Identification of the steam generating unit operating days that coal or oil was combusted for which $S0_2$or diluent (O_2or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and description of corrective action taken;

(4) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit;

(5) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(6) Identification of times when hourly averages have been obtained based on manual sampling methods;

(7) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(8) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Procedure 1 of appendix F 1 of this part. If the owner or operator elects to implement the alternative data assessment procedures described in §§60.47b(e)(4)(i) through (e)(4)(iii), each data assessment report shall include a summary of the results of all of the RATAs, linearity checks, CGAs, and calibration error or drift assessments required by §§60.47b(e)(4)(i) through (e)(4)(iii).

(m) For each affected facility subject to the SO_2standards in §60.42(b) for which the minimum amount of data required in §60.47b(c) were not obtained during the reporting period, the following information is reported to the Administrator in addition to that required under paragraph (k) of this section:

(1) The number of hourly averages available for outlet emission rates and inlet emission rates;

(2) The standard deviation of hourly averages for outlet emission rates and inlet emission rates, as determined in Method 19 of appendix A of this part, section 7;

(3) The lower confidence limit for the mean outlet emission rate and the upper confidence limit for the mean inlet emission rate, as calculated in Method 19 of appendix A of this part, section 7; and

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19 of appendix A of this part, section 7.

(n) If a percent removal efficiency by fuel pretreatment (*i.e.* , $\%R_f$) is used to determine the overall percent reduction (*i.e.* , $\%R_o$) under §60.45b, the owner or operator of the affected facility shall submit a signed statement with the report.

(1) Indicating what removal efficiency by fuel pretreatment (*i.e.* , $\%R_f$) was credited during the reporting period;

(2) Listing the quantity, heat content, and date each pre-treated fuel shipment was received during the reporting period, the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the reporting period;

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit; and

(4) Including a signed statement from the owner or operator of the fuel pretreatment facility certifying that the percent removal efficiency achieved by fuel pretreatment was determined in accordance with the provisions of Method 19 of appendix A of this part and listing the heat content and sulfur content of each fuel before and after fuel pretreatment.

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p) The owner or operator of an affected facility described in §60.44b(j) or (k) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The number of hours of operation; and

(3) A record of the hourly steam load.

(q) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator a report containing:

(1) The annual capacity factor over the previous 12 months;

(2) The average fuel nitrogen content during the reporting period, if residual oil was fired; and

(3) If the affected facility meets the criteria described in §60.44b(j), the results of any NO_X emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last NO_X emission test.

(r) The owner or operator of an affected facility who elects to use the fuel based compliance alternatives in §60.42b or §60.43b shall either:

(1) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil, natural gas, wood, a mixture of these fuels, or any of these fuels (or a mixture of these fuels) in combination with other fuels that are known to contain an insignificant amount of sulfur in §60.42b(j) or §60.42b(k) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in §60.41b and the applicable sulfur limit. For the purposes of this section, the distillate oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition, natural gas, wood, and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period; or

(2) The owner or operator of an affected facility who elects to demonstrate compliance based on fuel analysis in §60.42b or §60.43b shall develop and submit a site-specific fuel analysis plan to the Administrator for review and approval no later than 60 days before the date you intend to demonstrate compliance. Each fuel analysis plan shall include a minimum initial requirement of weekly testing and each analysis report shall contain, at a minimum, the following information:

(i) The potential sulfur emissions rate of the representative fuel mixture in ng/J heat input;

(ii) The method used to determine the potential sulfur emissions rate of each constituent of the mixture. For distillate oil and natural gas a fuel receipt or tariff sheet is acceptable;

(iii) The ratio of different fuels in the mixture; and

(iv) The owner or operator can petition the Administrator to approve monthly or quarterly sampling in place of weekly sampling.

(s) Facility specific NO_X standard for Cytec Industries Fortier Plant's C.AOG incinerator located in Westwego, Louisiana:

(1) *Definitions* .

Oxidation zone is defined as the portion of the C.AOG incinerator that extends from the inlet of the oxidizing zone combustion air to the outlet gas stack.

Reducing zone is defined as the portion of the C.AOG incinerator that extends from the burner section to the inlet of the oxidizing zone combustion air.

Total inlet air is defined as the total amount of air introduced into the C.AOG incinerator for combustion of natural gas and chemical by-product waste and is equal to the sum of the air flow into the reducing zone and the air flow into the oxidation zone.

(2) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in §60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the NO_X emission limit is 289 ng/J (0.67 lb/MMBtu) and a maximum of 81 percent of the total inlet air provided for combustion shall be provided to the reducing zone of the C.AOG incinerator.

(3) *Emission monitoring* . (i) The percent of total inlet air provided to the reducing zone shall be determined at least every 15 minutes by measuring the air flow of all the air entering the reducing zone and the air flow of all the air entering the oxidation zone, and compliance with the percentage of total inlet air that is provided to the reducing zone shall be determined on a 3-hour average basis.

(ii) The NO_X emission limit shall be determined by the compliance and performance test methods and procedures for NO_X in §60.46b(i).

(iii) The monitoring of the NO_X emission limit shall be performed in accordance with §60.48b.

(4) *Reporting and recordkeeping requirements* . (i) The owner or operator of the C.AOG incinerator shall submit a report on any excursions from the limits required by paragraph (a)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the C.AOG incinerator shall keep records of the monitoring required by paragraph (a)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of the C.AOG incinerator shall perform all the applicable reporting and recordkeeping requirements of this section.

(t) Facility-specific NO_X standard for Rohm and Haas Kentucky Incorporated's Boiler No. 100 located in Louisville, Kentucky:

(1) *Definitions* .

Air ratio control damper is defined as the part of the low NO_X burner that is adjusted to control the split of total combustion air delivered to the reducing and oxidation portions of the combustion flame.

Flue gas recirculation line is defined as the part of Boiler No. 100 that recirculates a portion of the boiler flue gas back into the combustion air.

(2) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO_X emission limit is 473 ng/J (1.1 lb/MMBtu), and the air ratio control damper tee handle shall be at a minimum of 5 inches (12.7 centimeters) out of the boiler, and the flue gas recirculation line shall be operated at a minimum of 10 percent open as indicated by its valve opening position indicator.

(3) *Emission monitoring for nitrogen oxides* . (i) The air ratio control damper tee handle setting and the flue gas recirculation line valve opening position indicator setting shall be recorded during each 8-hour operating shift.

(ii) The NO_X emission limit shall be determined by the compliance and performance test methods and procedures for NO_X in §60.46b.

(iii) The monitoring of the NO_X emission limit shall be performed in accordance with §60.48b.

(4) *Reporting and recordkeeping requirements* . (i) The owner or operator of Boiler No. 100 shall submit a report on any excursions from the limits required by paragraph (b)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of Boiler No. 100 shall keep records of the monitoring required by paragraph (b)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of Boiler No. 100 shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(u) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia* . (1) This paragraph (u) applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site") and only to the natural gas-fired boilers installed as part of the powerhouse conversion required pursuant to 40 CFR 52.2454(g). The requirements of this paragraph shall apply, and the requirements of §§60.40b through 60.49b(t) shall not apply, to the natural gas-fired boilers installed pursuant to 40 CFR 52.2454(g).

(i) The site shall equip the natural gas-fired boilers with low NO_X technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring NO_X emissions discharged to the atmosphere and opacity using a continuous emissions monitoring system or a predictive emissions monitoring system.

(iii) Within 180 days of the completion of the powerhouse conversion, as required by 40 CFR 52.2454, the site shall perform a performance test to quantify criteria pollutant emissions.

(2) [Reserved]

(v) The owner or operator of an affected facility may submit electronic quarterly reports for $SO_2$and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

(x) Facility-specific NO_X standard for Weyerhaeuser Company's No. 2 Power Boiler located in New Bern, North Carolina:

(1) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO_X emission limit is 215 ng/J (0.5 lb/MMBtu).

(2) *Emission monitoring for nitrogen oxides* . (i) The NO_X emissions shall be determined by the compliance and performance test methods and procedures for NO_X in §60.46b.

(ii) The monitoring of the NO_X emissions shall be performed in accordance with §60.48b.

(3) *Reporting and recordkeeping requirements* . (i) The owner or operator of the No. 2 Power Boiler shall submit a report on any excursions from the limits required by paragraph (x)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of the No. 2 Power Boiler shall keep records of the monitoring required by paragraph (x)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the No. 2 Power Boiler shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(y) Facility-specific NO_X standard for INEOS USA's AOGI located in Lima, Ohio:

(1) *Standard for* NO_X. (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical byproduct/waste are simultaneously combusted, the NO_X emission limit is 645 ng/J (1.5 lb/MMBtu).

(2) *Emission monitoring for* NO_X. (i) The NO_X emissions shall be determined by the compliance and performance test methods and procedures for NO_X in §60.46b.

(ii) The monitoring of the NO_X emissions shall be performed in accordance with §60.48b.

(3) *Reporting and recordkeeping requirements* . (i) The owner or operator of the AOGI shall submit a report on any excursions from the limits required by paragraph (y)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the AOGI shall keep records of the monitoring required by paragraph (y)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the AOGI shall perform all the applicable reporting and recordkeeping requirements of this section.

Attachment B – Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971 [326 IAC 12] [40 CFR Part 60, Subpart D]

Source Description and Location

Source Name:	Purdue University - West Lafayette
Source Location:	401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, IN 47907
County:	Tippecanoe
SIC Code:	8221
Operation Permit Renewal No.:	T 157-27313-00012
Permit Reviewer:	Kimberly Cottrell

NSPS [40 CFR Part 60, Subpart D]

Subpart D—Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971

Source: 72 FR 32717, June 13, 2007, unless otherwise noted.

§ 60.40 Applicability and designation of affected facility.

(a) The affected facilities to which the provisions of this subpart apply are:

(1) Each fossil-fuel-fired steam generating unit of more than 73 megawatts (MW) heat input rate (250 million British thermal units per hour (MMBtu/hr)).

(2) Each fossil-fuel and wood-residue-fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 73 MW (250 MMBtu/hr).

(b) Any change to an existing fossil-fuel-fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this subpart, shall not bring that unit under the applicability of this subpart.

(c) Except as provided in paragraph (d) of this section, any facility under paragraph (a) of this section that commenced construction or modification after August 17, 1971, is subject to the requirements of this subpart.

(d) The requirements of §§60.44 (a)(4), (a)(5), (b) and (d), and 60.45(f)(4)(vi) are applicable to lignite-fired steam generating units that commenced construction or modification after December 22, 1976.

(e) Any facility covered under subpart Da is not covered under this subpart.

§ 60.41 Definitions.

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

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

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference, see §60.17).

Coal refuse means waste-products of coal mining, cleaning, and coal preparation operations (e.g. culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

Fossil fuel means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.

Fossil fuel and wood residue-fired steam generating unit means a furnace or boiler used in the process of burning fossil fuel and wood residue for the purpose of producing steam by heat transfer.

Fossil-fuel-fired steam generating unit means a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer.

Wood residue means bark, sawdust, slabs, chips, shavings, mill trim, and other wood products derived from wood processing and forest management operations.

§ 60.42 Standard for particulate matter (PM).

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that:

(1) Contain PM in excess of 43 nanograms per joule (ng/J) heat input (0.10 lb/MMBtu) derived from fossil fuel or fossil fuel and wood residue.

(2) Exhibit greater than 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.

(b)(1) On or after December 28, 1979, no owner or operator shall cause to be discharged into the atmosphere from the Southwestern Public Service Company's Harrington Station #1, in Amarillo, TX, any gases which exhibit greater than 35 percent opacity, except that a maximum or 42 percent opacity shall be permitted for not more than 6 minutes in any hour.

(2) Interstate Power Company shall not cause to be discharged into the atmosphere from its Lansing Station Unit No. 4 in Lansing, IA, any gases which exhibit greater than 32 percent opacity, except that a maximum of 39 percent opacity shall be permitted for not more than six minutes in any hour.

(c) As an alternate to meeting the requirements of paragraph (a) of this section, an owner or operator that elects to install, calibrate, maintain, and operate a continuous emissions monitoring systems (CEMS) for measuring PM emissions can petition the Administrator (in writing) to comply with §60.42Da(a) of subpart Da of this part. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.43Da(a) of subpart Da of this part.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

§ 60.43 Standard for sulfur dioxide (SO_2).

(a) Except as provided under paragraph (d) of this section, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that contain SO_2in excess of:

(1) 340 ng/J heat input (0.80 lb/MMBtu) derived from liquid fossil fuel or liquid fossil fuel and wood residue.

(2) 520 ng/J heat input (1.2 lb/MMBtu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in paragraph (e) of this section.

(b) Except as provided under paragraph (d) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:

$$PS_{SO_2} = \frac{y\,(340) + z\,(520)}{(y + z)}$$

Where:

$PS_{SO}2$= Prorated standard for $S_{O2}$when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels or from all fossil fuels and wood residue fired;

y = Percentage of total heat input derived from liquid fossil fuel; and

z = Percentage of total heat input derived from solid fossil fuel.

(c) Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.

(d) As an alternate to meeting the requirements of paragraphs (a) and (b) of this section, an owner or operator can petition the Administrator (in writing) to comply with §60.43Da(i)(3) of subpart Da of this part or comply with §60.42b(k)(4) of subpart Db of this part, as applicable to the affected source. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.43Da(i)(3) of subpart Da of this part or §60.42b(k)(4) of subpart Db of this part, as applicable to the affected source.

(e) Units 1 and 2 (as defined in appendix G of this part) at the Newton Power Station owned or operated by the Central Illinois Public Service Company will be in compliance with paragraph (a)(2) of this section if Unit 1 and Unit 2 individually comply with paragraph (a)(2) of this section or if the combined emission rate from Units 1 and 2 does not exceed 470 ng/J (1.1 lb/MMBtu) combined heat input to Units 1 and 2.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

§ 60.44 Standard for nitrogen oxides (NOX).

(a) Except as provided under paragraph (e) of this section, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that contain NO_X, expressed as NO_2in excess of:

(1) 86 ng/J heat input (0.20 lb/MMBtu) derived from gaseous fossil fuel.

(2) 129 ng/J heat input (0.30 lb/MMBtu) derived from liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.

(3) 300 ng/J heat input (0.70 lb/MMBtu) derived from solid fossil fuel or solid fossil fuel and wood residue (except lignite or a solid fossil fuel containing 25 percent, by weight, or more of coal refuse).

(4) 260 ng/J heat input (0.60 lb MMBtu) derived from lignite or lignite and wood residue (except as provided under paragraph (a)(5) of this section).

(5) 340 ng/J heat input (0.80 lb MMBtu) derived from lignite which is mined in North Dakota, South Dakota, or Montana and which is burned in a cyclone-fired unit.

(b) Except as provided under paragraphs (c), (d), and (e) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$$PS_{NO_x} = \frac{w\,(260) + x\,(86) + y\,(130) + z\,(300)}{(w + x + y + z)}$$

Where:

PS_{NOX}= Prorated standard for $NO_X$when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

w = Percentage of total heat input derived from lignite;

x = Percentage of total heat input derived from gaseous fossil fuel;

y = Percentage of total heat input derived from liquid fossil fuel; and

z = Percentage of total heat input derived from solid fossil fuel (except lignite).

(c) When a fossil fuel containing at least 25 percent, by weight, of coal refuse is burned in combination with gaseous, liquid, or other solid fossil fuel or wood residue, the standard for NO_Xdoes not apply.

(d) Except as provided under paragraph (e) of this section, cyclone-fired units which burn fuels containing at least 25 percent of lignite that is mined in North Dakota, South Dakota, or Montana remain subject to paragraph (a)(5) of this section regardless of the types of fuel combusted in combination with that lignite.

(e) As an alternate to meeting the requirements of paragraphs (a), (b), and (d) of this section, an owner or operator can petition the Administrator (in writing) to comply with §60.44Da(e)(3) of subpart Da of this part. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.44Da(e)(3) of subpart Da of this part.

§ 60.45 Emissions and fuel monitoring.

(a) Each owner or operator shall install, calibrate, maintain, and operate continuous opacity monitoring system (COMS) for measuring opacity and a CEMS for measuring SO2emissions, NOXemissions, and either oxygen (O2) or carbon dioxide (CO2) except as provided in paragraph (b) of this section.

(b) Certain of the CEMS requirements under paragraph (a) of this section do not apply to owners or operators under the following conditions:

(1) For a fossil-fuel-fired steam generator that burns only gaseous or liquid fossil fuel (excluding residual oil) with potential SO2emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and that does not use post-combustion technology to reduce emissions of SO2or PM, CEMS for measuring the opacity of emissions and SO2 emissions are not required if the owner or operator monitors SO2emissions by fuel sampling and analysis or fuel receipts.

(2) For a fossil-fuel-fired steam generator that does not use a flue gas desulfurization device, a CEMS for measuring SO_2emissions is not required if the owner or operator monitors SO_2emissions by fuel sampling and analysis.

(3) Notwithstanding §60.13(b), installation of a CEMS for NO_Xmay be delayed until after the initial performance tests under §60.8 have been conducted. If the owner or operator demonstrates during the performance test that emissions of $NO_X$are less than 70 percent of the applicable standards in §60.44, a CEMS for measuring NO_Xemissions is not required. If the initial performance test results show that NO_Xemissions are greater than 70 percent of the applicable standard, the owner or operator shall install a CEMS for NO_Xwithin one year after the date of the initial performance tests under §60.8 and comply with all other applicable monitoring requirements under this part.

(4) If an owner or operator does not install any CEMS for sulfur oxides and NO_X, as provided under paragraphs (b)(1) and (b)(3) or paragraphs (b)(2) and (b)(3) of this section a CEMS for measuring either O_2or $CO_2$is not required.

(5) An owner or operator may petition the Administrator (in writing) to install a PM CEMS as an alternative to the CEMS for monitoring opacity emissions.

(6) A CEMS for measuring the opacity of emissions is not required for a fossil fuel-fired steam generator that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected source are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis. Owners and operators of affected sources electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (b)(6)(i) through (iv) of this section.

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (b)(6)(i)(A) through (D) of this section.

(A) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(B) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(C) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(D) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(ii) You must calculate the 1-hour average CO emissions levels for each boiler operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each boiler operating day.

(iii) You must evaluate the preceding 24-hour average CO emission level each boiler operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(iv) You must record the CO measurements and calculations performed according to paragraph (b)(6) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(7) The owner or operator of an affected facility subject to an opacity standard under §60.42 and that elects to not install a COMS because the affected facility burns only fuels as specified under paragraph (b)(1) of this section, monitors PM emissions as specified under paragraph (b)(5) of this section, or monitors CO emissions as specified under paragraph (b)(6) of this section shall conduct a performance test using Method 9 of appendix A–4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.42 and shall comply with either paragraphs (b)(7)(i), (b)(7)(ii), or (b)(7)(iii) of this section. If during the initial 60 minutes of observation all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent, the observation period may be reduced from 3 hours to 60 minutes.

(i) Except as provided in paragraph (b)(7)(ii) or (b)(7)(iii) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of this part performance tests using the procedures in paragraph (b)(7) of this section according to the applicable schedule in paragraphs (b)(7)(i)(A) through (b)(7)(i)(D) of this section, as determined by the most recent Method 9 of appendix A–4 of this part performance test results.

(A) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

(B) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;

(C) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or

(D) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 30 calendar days from the date that the most recent performance test was conducted.

(ii) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of this part performance test, elect to perform subsequent monitoring using Method 22 of appendix A–7 of this part according to the procedures specified in paragraphs (b)(7)(ii)(A) and (B) of this section.

(A) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A–7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.* , 90 seconds per 30 minute period) the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.* , 90 seconds) or conduct a new Method 9 of appendix A–4 of this part performance test using the procedures in paragraph (b)(7) of this section within 30 calendar days according to the requirements in §60.46(b)(3).

(B) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(iii) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (b)(7)(ii) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(c) For performance evaluations under §60.13(c) and calibration checks under §60.13(d), the following procedures shall be used:

(1) Methods 6, 7, and 3B of appendix A of this part, as applicable, shall be used for the performance evaluations of $SO_2$and NO_Xcontinuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B of appendix A of this part are given in §60.46(d).

(2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of appendix B to this part.

(3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent. For a continuous monitoring system measuring sulfur oxides or $NO_X$the span value shall be determined using one of the following procedures:

(i) Except as provided under paragraph (c)(3)(ii) of this section, $SO_2$and NO_Xspan values shall be determined as follows:

Fossil fuel	In parts per million	
	Span value for SO_2	Span value for NO_X
Gas	([1])	500.
Liquid	1,000	500.
Solid	1,500	1,000.
Combinations	1,000y + 1,500z	500 (x + y) + 1,000z.

[1]Not applicable.

Where:

x = Fraction of total heat input derived from gaseous fossil fuel;

y = Fraction of total heat input derived from liquid fossil fuel; and

z = Fraction of total heat input derived from solid fossil fuel.

(ii) As an alternative to meeting the requirements of paragraph (c)(3)(i) of this section, the owner or operator of an affected facility may elect to use the $SO_2$and NO_Xspan values determined according to sections 2.1.1 and 2.1.2 in appendix A to part 75 of this chapter.

(4) All span values computed under paragraph (c)(3)(i) of this section for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm. Span values that are computed under paragraph (c)(3)(ii) of this section shall be rounded off according to the applicable procedures in section 2 of appendix A to part 75 of this chapter.

(5) For a fossil-fuel-fired steam generator that simultaneously burns fossil fuel and nonfossil fuel, the span value of all CEMS shall be subject to the Administrator's approval.

(d) [Reserved]

(e) For any CEMS installed under paragraph (a) of this section, the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/MMBtu):

(1) When a CEMS for measuring $O_2$is selected, the measurement of the pollutant concentration and O_2concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF\left(\frac{20.9}{(20.9 - \%O_2)}\right)$$

Where E, C, F, and $\%O_2$are determined under paragraph (f) of this section.

(2) When a CEMS for measuring $CO_2$is selected, the measurement of the pollutant concentration and CO_2concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = CF_c\left(\frac{100}{\%CO_2}\right)$$

Where E, C, $F_c$and $\%CO_2$are determined under paragraph (f) of this section.

(f) The values used in the equations under paragraphs (e)(1) and (2) of this section are derived as follows:

(1) E = pollutant emissions, ng/J (lb/MMBtu).

(2) C = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by 4.15×10^4 M ng/dscm per ppm (2.59×10^{-9}M lb/dscf per ppm) where M = pollutant molecular weight, g/g-mole (lb/lb-mole). M = 64.07 for $SO_2$and 46.01 for NO_X.

(3) $\%O_2$, $\%CO_2$= O_2or CO_2volume (expressed as percent), determined with equipment specified under paragraph (a) of this section.

(4) F, F_c= a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of CO_2generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and $F_c$are given as follows:

(i) For anthracite coal as classified according to ASTM D388 (incorporated by reference, see §60.17), F = $2{,}723 \times 10^{-17}$dscm/J (10,140 dscf/MMBtu) and F_c= 0.532×10^{-17}scm CO_2/J (1,980 scf CO_2/MMBtu).

(ii) For subbituminous and bituminous coal as classified according to ASTM D388 (incorporated by reference, see §60.17), F = 2.637×10^{-7}dscm/J (9,820 dscf/MMBtu) and F_c= 0.486×10^{-7}scm CO_2/J (1,810 scf CO_2/MMBtu).

(iii) For liquid fossil fuels including crude, residual, and distillate oils, F = 2.476×10^{-7}dscm/J (9,220 dscf/MMBtu) and F_c= 0.384×10^{-7}scm CO_2/J (1,430 scf CO_2/MMBtu).

(iv) For gaseous fossil fuels, F = 2.347×10^{-7}dscm/J (8,740 dscf/MMBtu). For natural gas, propane, and butane fuels, F_c= 0.279×10^{-7}scm CO_2/J (1,040 scf CO_2/MMBtu) for natural gas, 0.322×10^{-7}scm CO_2/J (1,200 scf CO_2/MMBtu) for propane, and 0.338×10^{-7}scm CO_2/J (1,260 scf CO_2/MMBtu) for butane.

(v) For bark F = 2.589×10^{-7}dscm/J (9,640 dscf/MMBtu) and F_c= 0.500×10^{-7}scm CO_2/J (1,840 scf CO_2/MMBtu). For wood residue other than bark F = 2.492×10^{-7}dscm/J (9,280 dscf/MMBtu) and F_c= 0.494×10^{-7}scm CO_2/J (1,860 scf CO_2/MMBtu).

(vi) For lignite coal as classified according to ASTM D388 (incorporated by reference, see §60.17), F = 2.659×10^{-7}dscm/J (9,900 dscf/MMBtu) and F_c= 0.516×10^{-7}scm CO_2/J (1,920 scf CO_2/MMBtu).

(5) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/MMBtu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or Fc factor (scm CO_2/J, or scf CO_2/MMBtu) on either basis in lieu of the F or $F_c$factors specified in paragraph (f)(4) of this section:

$$F = 10^{-6} \frac{[227.2\ (\%H) + 95.5\ (\%C) + 35.6\ (\%S) + 8.7\ (\%N) - 28.7\ (\%O)]}{GCV}$$

$$F_c = \frac{2.0 \times 10^{-5} (\%C)}{GCV\ (SI\ units)}$$

$$F = 10^{-6} \frac{[3.64\ (\%H) + 1.53\ (\%C) + 0.57\ (\%S) + 0.14\ (\%N) - 0.46\ (\%O)]}{GCV\ (English\ units)}$$

$$F_c = \frac{20.0\ (\%C)}{GCV\ (SI\ units)}$$

$$F_c = \frac{321 \times 10^{3}\ (\%C)}{GCV\ (English\ units)}$$

(i) %H, %C, %S, %N, and %O are content by weight of hydrogen, carbon, sulfur, nitrogen, and O_2(expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM D3178 or D3176 (solid fuels), or computed from results using ASTM D1137, D1945, or D1946 (gaseous fuels) as applicable. (These five methods are incorporated by reference, see §60.17.)

(ii) GVC is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015 or D5865 for solid fuels and D1826 for gaseous fuels as applicable. (These three methods are incorporated by reference, see §60.17.)

(iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or Fc value shall be subject to the Administrator's approval.

(6) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or Fc factors determined by paragraphs (f)(4) or (f)(5) of this section shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^{n} X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^{n} X_i (F_c)_i$$

Where:

X_i= Fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.);

$F_i$or $(F_c)_i$= Applicable F or $F_c$factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section; and

n = Number of fuels being burned in combination.

(g) Excess emission and monitoring system performance reports shall be submitted to the Administrator semiannually 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 §60.7(c). Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

(1) *Opacity* . Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

(i) For sources subject to the opacity standard of §60.42(b)(1), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 35 percent opacity, except that one six-minute average per hour of up to 42 percent opacity need not be reported.

(ii) For sources subject to the opacity standard of §60.42(b)(2), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 32 percent opacity, except that one six-minute average per hour of up to 39 percent opacity need not be reported.

(2) *Sulfur dioxide.* Excess emissions for affected facilities are defined as:

(i) For affected facilities electing not to comply with §60.43(d), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of SO_2as measured by a CEMS exceed the applicable standard in §60.43; or

(ii) For affected facilities electing to comply with §60.43(d), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of SO_2as measured by a CEMS exceed the applicable standard in §60.43. Facilities complying with the 30-day SO_2standard shall use the most current associated SO_2compliance and monitoring requirements in §§60.48Da and 60.49Da of subpart Da of this part or §§60.45b and 60.47b of subpart Db of this part, as applicable.

(3) *Nitrogen oxides.* Excess emissions for affected facilities using a CEMS for measuring $NO_X$are defined as:

(i) For affected facilities electing not to comply with §60.44(e), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards in §60.44; or

(ii) For affected facilities electing to comply with §60.44(e), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of NO_Xas measured by a CEMS exceed the applicable standard in §60.44. Facilities complying with the 30-day NO_Xstandard shall use the most current associated NO_Xcompliance and monitoring requirements in §§60.48Da and 60.49Da of subpart Da of this part.

(4) *Particulate matter.* Excess emissions for affected facilities using a CEMS for measuring PM are defined as any boiler operating day period during which the average emissions (arithmetic average of all operating one-hour periods) exceed the applicable standards in §60.42. Affected facilities using PM CEMS must follow the most current applicable compliance and monitoring provisions in §§60.48Da and 60.49Da of subpart Da of this part.

(h) The owner or operator of an affected facility subject to the opacity limits in §60.42 that elects to monitor emissions according to the requirements in §60.45(b)(7) shall maintain records according to the requirements specified in paragraphs (h)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

§ 60.46 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, and subsequent performance tests as requested by the EPA Administrator, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (d) of this section.

(b) The owner or operator shall determine compliance with the PM, SO_2, and NO_Xstandards in §§60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of PM, SO_2, or NO_Xshall be computed for each run using the following equation:

$$E = CF_d\left(\frac{20.9}{(20.9 - \%O_2)}\right)$$

Where:

E = Emission rate of pollutant, ng/J (1b/million Btu);

C = Concentration of pollutant, ng/dscm (1b/dscf);

$\%O_2$= O_2concentration, percent dry basis; and

F_d= Factor as determined from Method 19 of appendix A of this part.

(2) Method 5 of appendix A of this part shall be used to determine the PM concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B of appendix A of this part shall be used to determine the PM concentration (C) after FGD systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train shall be set to provide an average gas temperature of 160±14 °C (320±25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O_2concentration ($\%O_2$). The O_2sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O_2concentration for the run shall be the arithmetic mean of the sample O_2concentrations at all traverse points.

(iii) If the particulate run has more than 12 traverse points, the O_2traverse points may be reduced to 12 provided that Method 1 of appendix A of this part is used to locate the 12 O_2traverse points.

(3) Method 9 of appendix A of this part and the procedures in §60.11 shall be used to determine opacity.

(4) Method 6 of appendix A of this part shall be used to determine the SO_2concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O_2concentration ($\%O_2$). The O_2sample shall be taken simultaneously with, and at the same point as, the SO_2sample. The SO_2emission rate shall be computed for each pair of $SO_2$and O_2samples. The SO_2emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 of appendix A of this part shall be used to determine the NO_Xconcentration.

(i) The sampling site and location shall be the same as for the SO_2sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO_Xsample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O_2concentration ($\%O_2$). The sample shall be taken simultaneously with, and at the same point as, the NO_Xsample.

(iii) The NO_Xemission rate shall be computed for each pair of $NO_X$and O_2samples. The NO_Xemission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

(c) When combinations of fossil fuels or fossil fuel and wood residue are fired, the owner or operator (in order to compute the prorated standard as shown in §§60.43(b) and 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D2015, or D5865 (solid fuels), D240 (liquid fuels), or D1826 (gaseous fuels) (all of these methods are incorporated by reference, see §60.17) shall be used to determine the gross calorific values of the fuels. The method used to determine the calorific value of wood residue must be approved by the Administrator.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

(d) The owner or operator may use the following as alternatives to the reference methods and procedures in this section or in other sections as specified:

(1) The emission rate (E) of PM, $SO_2$and NO_Xmay be determined by using the Fc factor, provided that the following procedure is used:

(i) The emission rate (E) shall be computed using the following equation:

$$E = CF_c \left(\frac{100}{\%CO_2} \right)$$

Where:

E = Emission rate of pollutant, ng/J (lb/MMBtu);

C = Concentration of pollutant, ng/dscm (lb/dscf);

$\%CO_2$= CO_2concentration, percent dry basis; and

F_c= Factor as determined in appropriate sections of Method 19 of appendix A of this part.

(ii) If and only if the average Fc factor in Method 19 of appendix A of this part is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B of appendix A of this part shall be used to determine the $O_2$and CO_2concentration according to the procedures in paragraph (b)(2)(ii), (4)(ii), or (5)(ii) of this section. Then if F_o(average of three runs), as calculated from the equation in Method 3B of appendix A of this part, is more than ±3 percent than the average $F_o$value, as determined from the average values of $F_d$and $F_c$in Method 19 of appendix A of this part, *i.e.* , F_{oa}= 0.209 (F_{da}/F_{ca}), then the following procedure shall be followed:

(A) When $F_o$is less than 0.97 F_{oa}, then E shall be increased by that proportion under 0.97 F_{oa}, *e.g.* , if $F_o$is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When $F_o$is less than 0.97 $F_{oa}$and when the average difference (d) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 F_{oa}, *e.g.* , if $F_o$is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When $F_o$is greater than 1.03 $F_{oa}$and when the average difference d is positive, then E shall be decreased by that proportion over 1.03 F_{oa}, *e.g.* , if $F_o$is 1.05 F_{oa}, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B of appendix A–3 of this part, Method 17 of appendix A–6 of this part may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of this part may be used with Method 17 of appendix A–6 of this part only if it is used after wet FGD systems. Method 17 of appendix A–6 of this part shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and SO_2may be determined simultaneously with the Method 5 of appendix A of this part train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 of appendix A of this part is used in place of the condenser (section 2.1.7) of Method 5 of appendix A of this part.

(ii) All applicable procedures in Method 8 of appendix A of this part for the determination of SO_2(including moisture) are used:

(4) For Method 6 of appendix A of this part, Method 6C of appendix A of this part may be used. Method 6A of appendix A of this part may also be used whenever Methods 6 and 3B of appendix A of this part data are specified to determine the SO_2emission rate, under the conditions in paragraph (d)(1) of this section.

(5) For Method 7 of appendix A of this part, Method 7A, 7C, 7D, or 7E of appendix A of this part may be used. If Method 7C, 7D, or 7E of appendix A of this part is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O_2concentration ($\%O_2$) for the emission rate correction factor.

(6) For Method 3 of appendix A of this part, Method 3A or 3B of appendix A of this part may be used.

(7) For Method 3B of appendix A of this part, Method 3A of appendix A of this part may be used.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5078, Jan. 28, 2009]

Attachment C – Standards of Performance for Coal Preparation Plants [326 IAC 12] [40 CFR Part 60, Subpart Y]

Source Description and Location

Source Name:	Purdue University - West Lafayette
Source Location:	401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, IN 47907
County:	Tippecanoe
SIC Code:	8221
Operation Permit Renewal No.:	T 157-27313-00012
Permit Reviewer:	Kimberly Cottrell

NSPS [40 CFR Part 60, Subpart Y]

Subpart Y—Standards of Performance for Coal Preparation Plants

§ 60.250 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to any of the following affected facilities in coal preparation plants which process more than 181 Mg (200 tons) per day: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after October 24, 1974, is subject to the requirements of this subpart.

[42 FR 37938, July 25, 1977; 42 FR 44812, Sept. 7, 1977, as amended at 65 FR 61757, Oct. 17, 2000]

§ 60.251 Definitions.

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

(a) *Coal preparation plant* means any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying.

(b) *Bituminous coal* means solid fossil fuel classified as bituminous coal by ASTM Designation D388–77, 90, 91, 95, or 98a (incorporated by reference—see §60.17).

(c) *Coal* means all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388–77, 90, 91, 95, or 98a (incorporated by reference—see §60.17).

(d) *Cyclonic flow* means a spiraling movement of exhaust gases within a duct or stack.

(e) *Thermal dryer* means any facility in which the moisture content of bituminous coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

(f) *Pneumatic coal-cleaning equipment* means any facility which classifies bituminous coal by size or separates bituminous coal from refuse by application of air stream(s).

(g) *Coal processing and conveying equipment* means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts.

(h) *Coal storage system* means any facility used to store coal except for open storage piles.

(i) *Transfer and loading system* means any facility used to transfer and load coal for shipment.

[41 FR 2234, Jan. 15, 1976, as amended at 48 FR 3738, Jan. 27, 1983; 65 FR 61757, Oct. 17, 2000]

§ 60.252 Standards for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any thermal dryer gases which:

(1) Contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf).

(2) Exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by §60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any pneumatic coal cleaning equipment, gases which:

(1) Contain particulate matter in excess of 0.040 g/dscm (0.017 gr/dscf).

(2) Exhibit 10 percent opacity or greater.

(c) On and after the date on which the performance test required to be conducted by §60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

[41 FR 2234, Jan. 15, 1976, as amended at 65 FR 61757, Oct. 17, 2000]

§ 60.253 Monitoring of operations.

(a) The owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(1) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within ±1.7 °C (±3 °F).

(2) For affected facilities that use venturi scrubber emission control equipment:

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±1 inch water gauge.

(ii) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point. The Administrator may be consulted for approval of alternative locations.

(b) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under §60.13(b).

[41 FR 2234, Jan. 15, 1976, as amended at 54 FR 6671, Feb. 14, 1989; 65 FR 61757, Oct. 17, 2000]

§ 60.254 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the particular matter standards in §60.252 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin.

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

[54 FR 6671, Feb. 14, 1989]

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (TSD)
for a Part 70 Significant Source Modification and
Part 70 Operating Permit Renewal

Source Description and Location

Source Name:	Purdue University - West Lafayette
Source Location:	401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, IN 47907-2024
County:	Tippecanoe
SIC Code:	8221
Significant Source Modification No.:	SSM 157-27361-00012
Operation Permit Renewal No.:	T 157-27313-00012
Permit Reviewer:	Kimberly Cottrell

Public Notice Information

On March 15, 2010, the Office of Air Quality (OAQ) had a notice published in the Journal and Courier in Lafayette, Indiana, stating that Purdue University - West Lafayette had applied for a significant modification to construct two new boilers and support facilities while retiring an existing boiler and Renewal of their Part 70 Operating Permit. 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 April 12, 2010, and April 14, 2010, OAQ received requests to conduct a public hearing. IDEM reviewed each request and determined that a public meeting would provide the best opportunity for community involvement.

On Monday, May 10, 2010, the Office of Air Quality (OAQ) held a public meeting at Cumberland Elementary, in West Lafayette, Indiana, for citizens and interested parties to discuss questions and concerns related to the project. The public comment period was extended until Friday, May 14, 2010.

Purdue Comments

On April 12, 2010, and April 14, 2010, OAQ received comments from Greg Towler, on behalf of Purdue University - West Lafayette. The summary of the comments and IDEM, OAQ responses, including changes to the permit (language deleted is shown in ~~strikeout~~ and language added is shown in **bold**) are as follows:

Purdue Comment 1: Condition A.2 and Section D.7 - Limestone: Description for (n) should read as follows:

> "…with emissions controlled by ~~a~~ bin vent **filters** exhausting to vent BVLI6."

Response:

IDEM has corrected the emission unit descriptions in Condition A.2 and Section D.7 as follows:

(n) One (1) limestone handling system for Boiler 6, permitted in 2010, with a nominal capacity of 12.5 tons/hr, including one (1) limestone pneumatic conveyor system, identified as LC6, from the truck unloading area or from the existing silo, identified as LS1, through an extension of the pneumatic system for the Boiler 5 day bin, identified as LI5, to the day bin for Boiler 6, identified as LI6, with emissions controlled by ~~a~~ **the** bin vent **filters** exhausting to vent BVLI6.

Purdue Comment 2: Section A.3(g) and Section D.5 - COAL Segment 1 Description: The description should read as follows:

> "…The bunker for Boiler 1 and Boiler 6 exhaust**s** to stack CB1. The bunker…"

Section A.3(h) and Section D.5 - COAL Segment 2 Description: The description should read as follows:

> "…The bunker for Boiler 1 and Boiler 6 exhaust**s** to stack CB1. The bunker…".

Response:

IDEM has updated the emission unit descriptions in Condition A.3 and Section D.5 as follows:

(g) One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a nominal capacity of 110 tons/hr, including: truck unloading station with two (2) hoppers; two (2) vibratory feeders; one (1) underground belt conveyor with a magnetic separator; and one (1) bucket elevator terminating at the top of Wade Utility Plant. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6, and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2) bunkers. The bunker for Boiler 1 and Boiler 6 ~~exhaust~~ **exhausts** to stack CB1. The bunker for Boiler 2 exhausts to CB2. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

(h) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a nominal capacity of 107 tons/hr, including: truck unloading 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 and one (1) Boiler 6 coal pre-crusher, 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 Utility Plant, with emissions from the final transfer point controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6, and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2) bunkers. The bunker for Boiler 1 and Boiler 6 ~~exhaust~~ **exhausts** to stack CB1. The bunker for Boiler 2 exhausts to CB2.

Purdue Comment 3:

Condition B.11(b), 2nd Paragraph, Page 17 of 115, Preventative Maintenance Plan should read, "If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the **above** time frame ~~specified in Section D~~, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:" Condition B.11(c), Page 18 of 115, Preventative Maintenance Plan should read, "…The PMPs **and their submittal** do not require…:"

Response:

IDEM has modified Condition B.11 as follows:

B.11 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) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(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.

The Permittee shall implement the PMPs.

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

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

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

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

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

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

The Permittee shall implement the PMPs.

(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. The PMPs **and their submittal** do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

Purdue Comment 4: Condition D.1.5, Retirement of Existing Operations, should read as follows:

D.1.5 Retirement of Existing Operations [326 IAC 2-2]

Pursuant to 326 IAC 2-2, the Permittee shall permanently discontinue the operation of Boiler 1 within one hundred eighty (180) days of the startup date for either Boiler 6 or Boiler 7, whichever date is earlier. **Boiler 6 may not operate until Boiler 1 has been permanently discontinued. NO_X emissions from Boiler 7 shall not exceed 40 tons during this period.**

Response:

IDEM agrees with these changes and has revised Condition D.1.5 accordingly.

Purdue Comment 5: Condition D.1.12(a), SO_2 Emissions and Sulfur Content, should read as follows:

D.1.12 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-2-1(c), **326** IAC **3-7, and Construction Permit PC (79) 1680,** the Permittee shall demonstrate that the sulfur dioxide emissions from Boiler 1 and Boiler 2 do not exceed the **emission limitations specified in Conditions D.1.3 and D.1.4, using the coal sampling and analysis data as follows:** ~~equivalent of 5.43 pound per million British thermal units (lb/MMBtu) of heat input, using a calendar month average.~~

(b) - (c) ...

Having two applicable emission limitations that are already stated earlier in the Section is duplicative to state them again here. FYI, the 5.43 lb/mmbtu limit is on a calendar daily average, not monthly.

Response:

IDEM agrees with these changes and has revised Condition D.1.12 accordingly.

Purdue Comment 6: Condition D.2.8(d), Page 43 of 115, Compliance Determination Requirements, should read as follows:

> "The Permittee shall determine compliance with the SO_2 and NO_X emission limitations for Boiler 6 in D.2.2(b) and ~~(e)~~ **(f)** based on …"

Paragraph (e) doesn't refer to SO_2 but (f) does.

Condition D.2.8(e), Compliance Determination Requirements, should read as follows:

> "The following equation shall be used for demonstrating compliance with the CO, PM, PM_{10}, $PM_{2.5}$, Be, and H_2SO_4 limits for Boiler 6 in D.2.2(a), (c), (d), (e), (f)**,** ~~and~~ (g)**, and (h)**:"

Response:

IDEM has revised Condition D.2.8 as follows:

D.2.8 Compliance Determination Requirements [326 IAC 2-2]

(a) -(c) ...

(d) The Permittee shall determine compliance with the SO_2, and NO_X emission limitations for Boiler 6 in D.2.2-(b)~~,~~ and ~~(e)~~ **(f)** based on CEM data obtained pursuant to Condition D.2.9 - Continuous Emission Monitoring. The daily CEM data shall be used to calculate the 12 month rolling total and shall be rolled on a monthly basis.

****See Comment and Response 8 for changes to paragraph (e)****

Purdue Comment 7: Purdue has provided updated data to support the netting analysis for the project that includes additional data that has been collected since submission of the permit application. For some pollutants, the average emissions have increased, resulting in a new highest 2-year average.

Response:

IDEM has reviewed the additional information. The new data does not change the outcome of the original netting analysis with regard to PM, PM_{10}, $PM_{2.5}$, NO_X, SO_2, and Be; therefore, IDEM has not made any changes to the baseline emissions for Boiler 1 for these pollutants. The new data corrected an error in the calculation of the baseline emissions for CO; therefore, IDEM has updated the emissions calculations and netting analysis to address the changes. The impacts to the permit are discussed in more detail in the response to Purdue Comment 8.

Purdue Comment 8: Based on new data regarding the baseline CO emissions from Boiler 1, Purdue is requesting to revise the emission limits for CO such that there will be one limit for both Boiler 6 and Boiler 7. Boiler 6 CO emissions will now be measured by a continuous emissions monitor, and Boiler 7 CO emissions will be measured using natural gas usage records and stack test data.

Response:

New data provided by Purdue has corrected an error in the calculation of the baseline emissions for CO, and IDEM has updated the emissions calculations and netting analysis to address the changes. First, the emission factor used for the CO baseline was changed to 5 lb CO/ton coal to be consistent with AP-42 emission factors. This reduced the baseline emissions from Boiler 1 from 298.68 tons per year to 164.15 tons per year. Removal of the natural gas usage limit for Boiler 7 results in slight increases in PM, PM_{10}, $PM_{2.5}$, NO_X, SO_2, and Be for this unit. IDEM has approved for Purdue to use a site specific emission factor for CO emission from Boiler 7. This change reduces the potential to emit CO from Boiler 7 from 77.70 tons per year to 42.96 tons per year. The revised calculations are included as an attachment to this Addendum.

The following table summarizes the changes to the PTE after issuance:

Table 1: Potential to Emit (ton/yr)

Process / Emission Unit	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	VOC	CO	Pb	Be	Hg	H_2SO_4	F
Boiler 6	36.30	169.40	169.40	1,379.40	242.00	16.64	~~214.17~~ ~~77.70~~ **257.13**	0.08	0.02569	0.006	6.99	0.34
~~Boiler 7~~	~~1.76~~	~~7.03~~	~~7.03~~	~~0.56~~	~~46.25~~	~~5.09~~		~~4.6e-4~~	~~1.1e-5~~	~~2.4e-4~~		
Boiler 7	**2.37**	**9.46**	**9.46**	**0.75**	**62.26**	**6.85**		**6.2e-4**	**1.5e-5**	**3.2e-4**		
Limestone Handling	6.00	6.00	2.00									
Coal Handling	8.00	8.00	1.50									
Ash Handling	6.00	3.00	3.00									
~~Total for Modification~~	~~58.06~~	~~193.43~~	~~182.93~~	~~1,379.96~~	~~288.25~~	~~21.73~~	~~291.87~~	~~0.08~~	~~0.0257~~	~~0.007~~	~~6.99~~	~~0.34~~
Emissions Increase for Modification	**58.67**	**195.86**	**185.36**	**1,380.15**	**304.26**	**23.49**	**257.13**	**0.08**	**0.0257**	**0.007**	**6.99**	**0.34**
Contemporaneous *Increases:*	*0.13*	*0.12*	*0.12*	*1.22*	*0.80*	*NR*	*0.09*	*NR*	*NR*	*NR*	*NR*	*NR*
• *Poultry Incinerator*	*1.10*	*1.08*	*1.08*	*2.43*	*24.49*	*NR*	*5.64*	*NR*	*NR*	*NR*	*NR*	*NR*
• *Emergency Generators* • *NG Boiler replacements*	*0.16*	*0.16*	*0.16*	*0.01*	*0.87*	*NR*	*0.73*	*NR*	*NR*	*NR*	*NR*	*NR*
Contemporaneous *Decreases:* • *Removal of Boiler 1*	*(421.17)*	*(301.55)*	*(187.66)*	*(1,390.19)*	*(353.44)*	*NR*	~~*(298.68)*~~ ***(171.39)***	*NR*	*(3.8e-2)*	*NR*	*NR*	*NR*
~~Total for Modification after Netting~~	~~(361.72)~~	~~(106.77)~~	~~(3.38)~~	~~(6.57)~~	~~(39.04)~~	~~21.73~~	~~(0.36)~~	~~0.08~~	~~(1.3e-2)~~	~~0.007~~	~~6.99~~	~~0.34~~
Net Emissions Increase	**(361.12)**	**(104.33)**	**(0.94)**	**(6.38)**	**(23.02)**	**23.49**	**92.20**	**0.08**	**(1.3e-2)**	**0.007**	**6.99**	**0.34**
Significant Level	25	15	10	40	40	40	100	0.6	4e-4	0.1	7.0	3.0

Purdue will be required to conduct testing to verify compliance with the new CO emission factor for Boiler 7. In order to address the need for Purdue to meet energy demands during the shutdown of Boiler 1, IDEM has revised the CO emission limit to be a combined limit for Boiler 6 and Boiler 7. Boiler 6 will use CEMS data to demonstrate compliance with the limit, and Boiler 7 will use testing data and natural gas usage data to demonstrate compliance with the limit. Additionally, IDEM has added a new paragraph (h) into Condition D.2.19, Record Keeping Requirements, to require record keeping of the pressure drop on the baghouses for Boiler 5 and Boiler 6 whenever COMS is not operating. These changes result in the following revisions to the permit:

Facility Description [326 IAC 2-7-5(15)]:

(e) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for **carbon monoxide (CO),** nitrogen oxides (NO_X)**,** and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

D.2.2 PSD Minor Limits [326 IAC 2-2]

~~(a) CO emissions from Boiler 6 shall not exceed 214.17 tons per twelve (12) consecutive month period with compliance determined at the end of each month.~~

(a) Total CO emissions from Boiler 6 and Boiler 7 shall not exceed 257.13 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) - (h) ...

...

D.2.7 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) Compliance with the Boiler 5 CO limitation in Condition D.2.1(b) shall be determined by performance stack tests conducted using methods as approved by the Commissioner.

(b) Not later than 180 days after startup of Boiler 6, compliance with the Boiler 6 ~~CO,~~ PM, Be, H_2SO_4, and HCl limitations in Conditions D.2.2 and D.2.3 shall be determined by performance stack tests conducted using methods as approved by the Commissioner.

(c) - (d) ...

D.2.8 Compliance Determination Requirements [326 IAC 2-2]

(e) The following equation shall be used for demonstrating compliance with the ~~CO,~~ PM, PM_{10}, $PM_{2.5}$, Be, and H_2SO_4 limits for Boiler 6 in D.2.2~~(a),~~ (c), (d), (f)**,** ~~and~~ (g)**, and (h)**:

E = U x HV x EF

Where:

E = Pollutant Emissions, tons/month
U = Coal Usage, tons coal/month
HV = Coal Heating Value, MMBtu/ton coal; Btu/lb x 2000 lb/ton/1,000,000 Btu/MMBtu
EF = Pollutant emission rate, ton/MMBtu; lb/MMBtu / 2000 lb/ton

~~EF_{CO} = 0.177 lb/MMBtu or other value as determined during the last valid compliance demonstration~~

EF_{PM} = 0.03 lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{PM10} = 0.14 lb/MMBtu or other value as determined during the last valid compliance demonstration
$EF_{PM2.5}$ = 0.14 lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{Be} = 2.12×10^{-5} lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{H2SO4} = 0.0055 lb/MMBtu or other value as determined during the last valid compliance demonstration

(f) The following equation shall be used for demonstrating compliance with the CO limit for Boiler 6 and Boiler 7 in D.2.2(a) and D.4.1(b):

$$E = CO_{B6} + \frac{U \times HV \times EF_{CO\text{-}B7}}{2000 \text{ lb/ton}}$$

Where:
E = Total CO Emissions, tons/month
CO_{B6} = CO Emissions, tons/month from Boiler 6 CO CEMS data
U = Natural Gas Usage, MMCF natural gas/month for Boiler 7
HV = Fuel Heating Value, Btu/CF natural gas;
$EF_{CO\text{-}B7}$ = 0.0379 lb/MMBtu or other value as determined during the last valid compliance demonstration

D.2.10 Continuous Emissions Monitoring [326 IAC 3-5] [40 CFR 64]

(a) ...

(b) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), opacity, **CO,** SO_2, and NO_X continuous emission monitoring systems (CEMS) for Boiler 6 shall be calibrated, maintained, and operated for measuring opacity, **CO,** SO_2, and NO_X which meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60. For Boiler 6, the Continuous Opacity Monitoring System (COMS) shall be in operation in accordance with 326 IAC 3-5 and 40 CFR Part 60 when fuel is being combusted in the boiler.

(c) - (d) ...

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

Whenever the CO continuous emission monitoring system for Boiler 6 is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall operate Boiler 6 in a manner consistent with best combustion practices.

~~D.2.18~~ **D.2.19** Record Keeping Requirements

(a) - (c) ...

(d) To document compliance with the CO requirements in Conditions D.2.1**(b)**~~, D.2.2,~~ **and** D.2.7**(a)**, ~~and D.2.8,~~ the Permittee shall maintain ~~records in accordance with (1) through (3) below~~ **data and results from the most recent stack test for Boiler 5**. Records shall be complete and sufficient to establish compliance with the CO ~~limits~~ **limit** in ~~Conditions~~ **Condition** D.2.1**(b)** ~~and D.2.2~~.

~~(1) Data and results from the most recent stack test. (Boiler 5 and Boiler 6)~~

~~(2) Monthly coal usage. (Boiler 6)~~

~~(3) Coal higher heating value (HHV). (Boiler 6)~~

(e) To document compliance with the CO requirements in Conditions D.2.2(a) and D.2.8(f), the Permittee shall maintain records of all CO continuous emissions monitoring data, pursuant to 326 IAC 3-5-6. Records shall be complete and sufficient to establish compliance with the CO limit in Condition D.2.2(a).

~~(e)~~**(f)** ...

~~(f)~~**(g)** ...

(h) To document compliance with Condition D.2.15, the Permittee shall maintain daily records of the pressure drop across the baghouses for Boiler 5 and Boiler 6 whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

~~(g)~~**(i)** ...

D.4.1 Boiler 7 PSD Minor Limits [326 IAC 2-2]

(a) The natural gas usage for Boiler 7 shall not exceed ~~1850~~ **2,491** million cubic feet (MMCF) per twelve (12) consecutive month period. Compliance with this limit shall be determined at the end of each month.

(b) Total CO emissions from Boiler 6 and Boiler 7 shall not exceed 257.13 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

~~(b) CO emissions from Boiler 7 shall not exceed 0.0824 pounds per million British thermal units (lb/MMBtu) of heat input.~~

(c) NO_X emissions from Boiler 7 shall not exceed 0.049 pounds per million British thermal units (lb/MMBtu) of heat input.

(d) PM emissions from Boiler 7 shall not exceed 0.0019 pounds per million British thermal units (lb/MMBtu) of heat input.

(e) PM_{10} emissions from Boiler 7 shall not exceed 0.0075 pounds per million British thermal units (lb/MMBtu) of heat input.

(f) $PM_{2.5}$ emissions from Boiler 7 shall not exceed 0.0075 pounds per million British thermal units (lb/MMBtu) of heat input.

(g) SO_2 emissions from Boiler 7 shall not exceed 0.0006 pounds per million British thermal units (lb/MMBtu) of heat input.

Compliance with these emission limits combined with the potential to emit CO, NO_X, PM, PM_{10}, $PM_{2.5}$, and SO_2 emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than one hundred (100) tons per year of CO, less than forty (40) tons per year of NO_X, less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, less than ten (10) tons per year of $PM_{2.5}$, and less than forty (40) tons per year of SO_2. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

Compliance Determination Requirements

D.4.2 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Compliance with the CO limitation in Condition D.4.1(b) shall be determined by a performance stack test for Boiler 7 conducted using methods as approved by the Commissioner. This testing shall be repeated by December 31 of every second calendar year following the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

D.4.3 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the CO limit for Boiler 6 and Boiler 7 in D.2.2(a) and D.4.1(b):

$$E = CO_{B6} + \frac{[U \times HV \times EF_{CO\text{-}B7}]}{2000 \text{ lb/ton}}$$

Where:

E = Total CO Emissions, tons/month
CO_{B6} = CO Emissions, tons/month from Boiler 6 CO CEMS data
U = Natural Gas Usage, MMCF natural gas/month for Boiler 7
HV = Fuel Heating Value, Btu/CF natural gas;
$EF_{CO\text{-}B7}$ = 0.0379 lb/MMBtu or other value as determined during the last valid compliance demonstration

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

D.4.4 Record Keeping Requirements

(a) To document compliance with the CO requirements in Conditions D.4.1(b), D.4.2, and D.4.3, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the CO limit in Condition D.4.1(b).

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

(2) Monthly natural gas usage.

(3) Natural gas heating value (HV).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

Boiler 6 and Boiler 7 CO Emissions - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
~~Mailing Address: 401 S. Grant Street, Freehafer Hall of Administrative Services,West Lafayette, Indiana, 47907-2024~~
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 6 **and Boiler 7**
Parameter: CO Emissions
Limit: not more than ~~214.17~~ **257.13** tons per 12 consecutive month period with compliance determined at the end of each month.

Boiler 7 Natural Gas Usage - Part 70 Quarterly Report

Source Name: Purdue University
Emission Unit Location: Purdue University, Wade Utility Plant, West Lafayette, Indiana, 47907-2024
~~Mailing Address: 401 S. Grant Street, Freehafer Hall of Administrative Services,West Lafayette, Indiana, 47907-2024~~
Part 70 Permit Renewal No.: T 157-27313-00012
Facility: Boiler 7
Parameter: natural gas usage
Limit: not more than ~~1850~~ **2,491** MMCF per 12 consecutive month period with compliance determined at the end of each month.

Purdue Comment 9: A. Condition D.2.19(a) (*now D.2.20(a)*), Reporting Requirements, should read as follows because only subpart (a) requires a limit that is to be reported on a quarterly basis:

~~D.2.19~~ **D.2.20** Reporting Requirements

(a) A quarterly report of opacity exceedances and a quarterly summary of the information to document the compliance status with Conditions D.2.1**(a)**, D.2.2, D.2.3, D.2.4, and D.2.5, shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) - (d) ...

...

B. Condition D.4.2, Reporting Requirements, should read as follows because only subparts (a) and (b) require a limit that is to be reported on a quarterly basis:

~~D.4.2~~ **D.4.5** Reporting Requirements

A quarterly summary of the information to document the compliance status with ~~Condition D.4.1~~ **Conditions D.4.1(a) and D.4.1(b)** shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

C. Condition D.9.4, Reporting Requirements, should read as follows because only subpart (a) requires a limit that is to be reported on a quarterly basis:

D.9.4 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.9.1**(a)** shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

Response:

IDEM has updated the Reporting Requirements accordingly.

Purdue Comment 10: The compliance determination equations currently calculate particulate matter emissions in pounds and do not convert the totals to equivalent tons per month. Updates are needed to be applied to D.5.5, D.6.6 and D.7.5, Compliance Determination Requirements. The changes should read as follows:

D.5.5 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the PM, PM_{10}, and $PM_{2.5}$ limits for COAL Segment 1 and COAL Segment 2 in D.5.1:

$$\cancel{E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right)}$$

$$E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right) \times \left(\frac{1_ton}{2000_lb}\right)$$

Where:

E = Pollutant Emissions, tons/month
U = Coal Handled, tons coal/month
EF = Uncontrolled pollutant emission rate, lb/ton coal
CE = Control device efficiency, %
(for baghouses, CE = 99%; for rotoclones / multiclones, CE = 50%)
EF_{PM} = 0.862 lb/ton **coal**
EF_{PM10} = 0.408 lb/ton **coal**
$EF_{PM2.5}$ = 0.062 lb/ton **coal**

D.6.6 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the PM, PM_{10}, and $PM_{2.5}$ limits for ASH Segment 2 in D.6.2:

$$\cancel{E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right)}$$

$$E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right) \times \left(\frac{1_ton}{2000_lb}\right)$$

Where:

E = Pollutant Emissions, tons/month
U = Ash Handled, tons ash/month
EF = Uncontrolled pollutant emission rate, lb/ton ash
CE = Control device efficiency, %
(for baghouses, CE = 99%; for bin vents, CE = 99%)
EF_{PM} = 3.14 lb/ton **ash**
EF_{PM10} = 1.10 lb/ton **ash**
$EF_{PM2.5}$ = 1.10 lb/ton **ash**

D.7.5 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the PM, PM_{10}, and $PM_{2.5}$ limits for the limestone storage and handling equipment in D.7.1:

$$\cancel{E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right)}$$

$$E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right) \times \left(\frac{1_ton}{2000_lb}\right)$$

Where:

E = Pollutant Emissions, tons/month
U = Limestone Handled, tons ~~ash~~ **limestone** /month
EF = Uncontrolled pollutant emission rate, lb/ton limestone
CE = Control device efficiency, %
(for baghouses, CE = 99%; for bin vents, CE = 99%)
EF_{PM} = 2.2 lb/ton **limestone**
EF_{PM10} = 2.2 lb/ton **limestone**
$EF_{PM2.5}$ = 2.2 lb/ton **limestone**

Response:

IDEM has corrected the equations as requested.

Purdue Comment 11: Condition D.7.7(b), Parametric Monitoring, should read as follows:

D.7.7 Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) ...

(b) The Permittee shall record the pressure drop across the bin vent~~s~~ **filters**, identified as BVLI5 and BVLI6, at least once per week when limestone is being transferred into the day bins. When for any one reading, the pressure drop across the ~~baghouse~~ **bin vent filters** 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 - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) ...

Response:

IDEM has corrected Condition D.7.7 accordingly.

Purdue Comment 12: Since LSBH–1 is the only emission unit that is required to have VEs, Condition D.7.9(b) should be revised. Condition D.7.9(c) should be clarified regarding the specific parametric monitoring requirement for LSBH–1, BVLI–5, and BVLI–6. Condition D.7.9, Record Keeping Requirements, should read as follows:

D.7.9 Record Keeping Requirements

(a) ...

(b) To document the compliance status with Condition D.7.6, the Permittee shall maintain weekly records of the visible emission notations of ~~the limestone handling systems exhaust points~~ **LSBH–1**. The Permittee shall include in its weekly record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that week).

(c) To document the compliance status with Condition D.7.7, the Permittee shall maintain weekly records of the total static pressure drop across **LSBH–1, BVLI–5, and BVLI–6** ~~each baghouse and bin vent~~. The Permittee shall include in its weekly record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that week).

(d) ...

Response:

IDEM has updated Condition D.7.9 accordingly.

Purdue Comment 13: Condition E.1.2(a), Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, should be updated as follows:

E.1.2 Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12] [40 CFR 60, Subpart Db]

Pursuant to 40 CFR 60, Subpart Db, the Permittee shall comply with the provisions of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, which are incorporated by reference as 326 IAC 12 for Boiler 5, Boiler 6, and Boiler 7 as specified as follows:

(a) Boiler 5 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b(a)**, (e), (g),** and (i)
(4) 40 CFR 60.43b(a)**, (f), and (g)**
(5) 40 CFR 60.44b**(a),** (h), **and** (i)~~, and (l)(1)~~
(6) 40 CFR 60.45b
(7) 40 CFR 60.46b
(8) 40 CFR 60.47b
(9) 40 CFR 60.48b
(10) 40 CFR 60.49b

(b) Boiler 6 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b**(e), (g), and** (k)(1)
(4) 40 CFR 60.43b**(f), (g), and** (h)(1)
(5) 40 CFR 60.44b(h), (i), and (l)(1)
(6) 40 CFR 60.45b
(7) 40 CFR 60.46b
(8) 40 CFR 60.47b
(9) 40 CFR 60.48b
(10) 40 CFR 60.49b

(c) ...

Response:

IDEM has updated Condition E.1.2 accordingly.

Purdue Comment 14: Condition E.3.2, Standards of Performance for Coal Preparation Plants, should be updated as follows:

E.3.2 Standards of Performance for Coal Preparation Plants [326 IAC 12] [40 CFR 60, Subpart Y]

Pursuant to 40 CFR 60, Subpart Y, the Permittee shall comply with the provisions of the Standards of Performance for Coal Preparation Plants, which are incorporated by reference as 326 IAC 12 for the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 as specified as follows:

(1) 40 CFR 60.250
(2) 40 CFR 60.251
(3) ~~40 CFR 60.252(c)~~
~~(4)~~ 40 CFR 60.254
(4) 40 CFR 60.255
(5) 40 CFR 60.257
(6) 40 CFR 60.258

Response:

IDEM has updated Condition E.3.2 accordingly.

General Comments

On April 12-14, 2010, and May 11-17, 2010, OAQ received comments from several concerned citizens including:

- Katie Jones, Purdue University, College of Engineering
- Jonathan Beever, Purdue University, Department of Philosophy
- Dolaporn Novem Auyeung, Purdue University graduate student
- A. J. Bundy, Purdue University student
- Rick Kuhnla, Purdue University student
- O. Dorsey, Purdue University student
- Benjamin Futa, Purdue University student
- Steve Francis, Chairperson, Hoosier Chapter Sierra Club

- Jesse Kharbanda, Executive Director, Hoosier Environmental Council
- Christa Westerberg, McGillivray Westerberg & Bender LLC, on behalf of Sierra Club and Hoosier Environmental Council
- Dan Martin, resident of West Lafayette, Indiana
- Jay and Anona Mitchell, residents of West Lafayette, Indiana
- Madeline Chadwell, resident of West Lafayette, Indiana
- Charles Deppert, resident of Indianapolis, Indiana
- Cathy Caldie, Purdue Alumnus, resident of Columbus, Indiana
- Tina Jesson, resident of Brownsburg, Indiana
- Patricia Whitcomb, resident of Carmel, Indiana
- Leslie Webb, resident of Carmel, Indiana
- Alexis Boxer, et. al., Sierra Student Coalition
- Gerald VanHorn
- Bobbie Stewart

The summary of the comments and IDEM, OAQ responses, including changes to the permit (language deleted is shown in ~~strikeout~~ and language added is shown in **bold**) are as follows:

Comment 1:

Several commenters requested that IDEM decline Purdue's air permit application for new boilers at the Wade coal power plant. In general, the commenters do not want IDEM to permit any new coal fired boilers. The commenters would instead like to see clean, renewable energy projects.

Response:

The new source review requirements do not dictate process equipment selections by the applicant. Rather, applicability of state and federal rules is evaluated based on the equipment that the applicant has proposed. The alternatives suggested by the commenters would have the effect of redefining the project. There are no changes to the permit as a result of this comment.

Comment 2:

Residents of West Lafayette commented that they are supportive of the project to replace the 50 year old coal boiler with a newer, cleaner coal fired boiler.

Response:

IDEM thanks the residents of West Lafayette for their comments and their involvement in the public process. There are no changes to the permit as a result of this comment.

Comment 3: The draft permit's PSD netting analysis is faulty.

Purdue is a major stationary source under the Prevention of Significant Deterioration (PSD) program of the Clean Air Act. TSD at 3. However, IDEM finds that the addition of Boilers 6 and 7 does not constitute a "major modification" of this major source because it does not result in a "net emissions increase" due to decommissioning of Boiler 1. IDEM's netting analysis is faulty and must be revised.

IDEM Incorrectly Calculated Emissions Decreases Associated with Retiring Boiler 1.

In its TSD, IDEM determines that the proposed new emission sources at Purdue—Boiler 6, Boiler 7, and the lime handling system—will result in significant increases of PM, PM_{10}, $PM_{2.5}$, SO_X, NO_X, CO, and Berylilum ("Be") emissions, even when subject to emission limits and controls. TSD Appendix A at 1. However, IDEM then relies on a "contemporaneous decrease" associated with shutting down Unit 1 to determine that the proposed modification will result in negative net emission increases for each of these pollutants. *Id*. at 1, 2; *see also* TSD at 11. The IDEM calculation of net emission decreases for PM, PM_{10}, $PM_{2.5}$, SO_X, NO_X, CO, and Be is in error.

A proper PSD applicability analysis first considers whether a modification will result in a significant emissions increase, and then whether the project will also result in a *net* emissions increase. 326 IAC 2-2-2(d)(1).

326 IAC 2-2-2(d)(4) provides for an actual-to potential test to measure whether emission increases are significant for the new emission units. A "net emissions increase" is further defined as:

> The amount by which the sum of the following exceeds zero (0):
>
> (A)The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated under [326 IAC 2-2-2(d)].
>
> (B)Any other increases and decreases in actual emission at the major stationary source that are *contemporaneous* with the particular change and are otherwise *creditable*. Baseline actual emissions for calculating increases and decreases under this clause shall be determined as provided in subsection (e), except that subsection (e)(1)(C) and (e)(2)(D) shall not apply. 326 IAC 2-2-1(jj)(1) (emphasis added).

It is unclear what methods IDEM used to conduct the PSD applicability analysis. As U.S. EPA recently clarified, "[t]he procedure for determining whether a project results in a significant emissions increase for a pollutant, also known as Step 1 of the PSD applicability determination process, requires that only emission increases for a pollutant resulting from the units in a Project be added to determine if the resulting increase is significant." Letter from Barbara A. Finazzo, Director, Division of Envtl. Planning & Protection, U.S. EPA Region 2 at 1, to Kathleen Antoine, Envtl. Director, HOVENSA LLC (Mar. 30, 2010) ("the Finazzo Letter"), *available at*
326 IAC 2-2-2(d)(4) provides for an actual-to potential test to measure whether emission increases are significant for the new emission units. A "net emissions increase" is further defined as: http://www.epa.gov/region7/air/nsr/nsrmemos/stp1net.pdf; *see also* 40 CFR 52.21(a)(2)(iv)(d), and the parallel 326 IAC 2-2-2(d)(4). Contemporaneous and creditable decreases in emissions at the source are then considered at Step 2 of the PSD applicability analysis. *E.g.*, 40 CFR 52.21(b)(3)(i), 326 IAC 2-2-1(jj). "When emissions increases and decreases of a pollutant resulting from a project are considered in Step 1 of the NSR applicability analysis, it is known as 'project netting.'" Finazzo Letter at 1. However, "project netting is not allowed under EPA's current rules" for a variety of reasons explained in the Finazzo letter. *Id.* at 5.

Page 11 of the Technical Support Document ("TSD") suggests IDEM may have used project netting to calculate PSD applicability for the modifications at Purdue because it simultaneously considers emissions from the modifications while immediately crediting decreases associated with Unit 1. Appendix A to the TSD suggests project netting was not used. IDEM should clarify which method it used and, if it used project netting, should revise the PSD applicability analysis consistent with 325 IAC 2-2-2 and the Finazzo letter.

Additionally, if IDEM calculated a significant emissions increase, it is unclear from the TSD whether it used the method in 326 IAC 2-2-2(d)(3), for existing emissions units, or (4), for new emissions units. *See* TSD at 11 (stating "pursuant to 326 IAC 2-2, the PSD requirements do not apply," without specifying which sections of 2-2 IDEM used). Sierra Club's position is that 2-2-2(d)(4) is the appropriate section to apply. IDEM should clarify this aspect of its PSD analysis and, if the actual-to-potential test in 2-2-2(d)(4) was not used, revise the analysis consistent with this section.

An emissions decrease is only "contemporaneous" if it occurs during the period "five (5) years *before construction of the particular change commences* and the date that the increases from the particular change occurs." 326 IAC 2-2-1(jj)(2) (emphasis added). A decrease is only "creditable" if the following conditions, *inter alia*, are met:

> 1) it has not been relied upon in issuing any previous permit to the source;
>
> 2) the decrease did not occur at a clean unit;
>
> 3) the old level of actual emissions *or the old level of allowable emissions, whichever is lower*, exceeds the new level of actual emissions;
>
> 4) the decrease is enforceable as a practical matter; and
>
> 5) the decrease in emissions has "approximately the same *qualitative significance* for public health and welfare as that attributed to the increase from the particular change"
>
> 326 IAC 2-2-1(jj)(3), (6) (emphasis added).

Emission decreases are calculated according to 326 IAC 2-2-1(e)(A) and (B). This requires that the "baseline"—from which the new emission rate is subtracted to determine the decrease—equals "the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive twenty-four (24) month period selected by the owner or operator within the five (5) year period *immediately preceding when the owner or operator begins actual construction* of the project." 326 IAC 2-2-1(e) (emphasis added).

Because 326 IAC 2-2-1(e)(C) does not apply to netting, *see* 326 IAC 2-2-1(jj)(1)(B), the source is not allowed to use a different 24-month period for each pollutant. The "baseline" can be a period other than 24 months from the 5 years preceding construction if approved by the commissioner to represent "normal source operations." *Id.* Such alternate baseline is rare. Additionally, the baseline *must* be adjusted downward "to exclude any noncompliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the consecutive twenty-four (24) month period." 326 IAC 2-2-1(e)(B).

In summary, the netting analysis performed by a permitting authority tends to follow a six-step process:
(1) determine emission increases from the proposed project;
(2) determine the beginning and ending dates of the contemporaneous period as it relates to the proposed modification;
(3) determine which emission units at the source have experienced an increase or decrease in emissions during the contemporaneous period;
(4) determine which emissions changes are creditable;
(5) determine, on a pollutant-by-pollutant basis, the amount of each contemporaneous and creditable emissions increase and decrease; and

(6) sum all contemporaneous and creditable increases and decreases with the increase from the proposed modification to determine if a significant net emissions increase will occur. 45 *Fed Reg.* at *52,698; see also* Memorandum entitled, *"Proposed Netting for Modifications at Cyprus Northshore Mining Corporation, Silver Bay, Minnesota,"* from John Calcagni to David Kee (August 11, 1992) at 3-6.

At the conclusion of the netting analysis, the permitting authority can then determine the specific pollutants for which there is a significant net increase in emissions, and thus, would be subject to PSD review. *See, e.g., In re Hawaii Electric Light Company, Inc.,* 8 E.A.D. 66 (EAB, November 25, 1988) (discussing elements of the netting analysis). *In re Louisville Gas & Electric Co*., Petition No. IV-2008-3, Order at 21 (EPA Administrator Aug. 12, 2009).

Response:

A. IDEM calculated potential emissions from the proposed project as follows:

1. The unrestricted potential emissions from Boiler 6, Boiler 7, and coal, ash, and limestone handling were calculated using the maximum capacities of each process.

2. The unrestricted potential emissions were compared to the thresholds in 326 IAC 2-2-1(xx).

3. Since the unrestricted potential emissions exceeded the threshold for some pollutants, Purdue limited the potential to emit for Boiler 6, Boiler 7, and coal, ash, and limestone handling.

4. The limited potential to emit resulted in significant emissions increases as defined in 326 IAC 2-2-1(xx).

5. Purdue performed the netting analysis such that the net emissions increases were lower than the significant levels.

Pursuant to 326 IAC 2-2-2(d)(1), the project is not a major modification because it does not cause a net emissions increase of any of the pollutants above the significant levels as defined in 326 IAC 2-2-1(xx). IDEM did not perform an actual to projected actual test under 326 IAC 2-2-2(d)(4). No "project netting" was performed in this analysis.

Pursuant to 326 IAC 2-2-1(jj)(1)(B), any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable have been included in the netting analysis. Baseline actual emissions for calculating increases and decreases under this clause shall be determined as provided in subsection (e) except that subsections (e)(1)(C) and (e)(2)(D) shall not apply. 326 IAC 2-2-1(e)(1)(C) and 326 IAC 2-2-1(e)(2)(D) do not apply to the increases and decreases of emissions units other than this proposed project occurring during the contemporaneous period.

Comment 4: The “netting” analysis done for the proposed project includes a number of errors, including the following:

- Use of a “baseline” outside of the 5 years preceding project construction.
- Failure to exclude noncompliant emissions, or those emissions exceeding the “allowable” emissions, from the “baseline” emissions.
- Failure to account for the fact that the declining emissions from the existing Unit 1 do not have the same qualitative significance of constant emissions from the new units for their 30+ years of life.

IDEM Unlawfully Uses Feb. 2004 through Jan. 2006 as the "Contemporaneous" Period for Calculating a Net Emissions Decrease.

In Appendix A to the TSD, IDEM calculates Boiler 1's "baseline" emissions of SO_2, NO_X, PM, $PM_{2.5}$, and PM_{10} from approximately February 2004 through January 2006. NO_X uses Jan. 2004-Dec. 2005, SO_2 uses March 2004 through February 2006, CO uses Feb. 2004 through Jan. 2006, and PM, PM_{10}, and $PM_{2.5}$ use Feb. 2004 through Jan. 2006. TSD Appendix. A at 14-16.

As noted above, to be used in netting, the baseline emissions must be a twenty-four (24) month period "*within* the five (5) year period immediately preceding when the owner or operator *begins actual construction* of the project." 326 IAC 2-2-1(e)(1) (emphasis added); *see also* 326 IAC 2-2-1(jj)(2)(A) (requiring that a contemporaneous decrease occur within "five (5) years before construction of the particular change occurs."). The "baseline" period apparently used by IDEM in this case is not within the five years preceding actual construction of the new boilers, which has obviously cannot have lawfully occurred yet and which cannot occur until IDEM proposes a permit to EPA and EPA is allowed at least 45 days to review the proposed revised permit. In other words, construction cannot lawfully commence until mid-2010 at the earliest326 IAC 2-1.1-8. The five-year period preceding this is therefore, at the earliest, June 2005 through May 2010. TSD Appendix. A at 14-16 (calculating emissions from Boiler 1 and Boiler 1 Coal and Ash Handling). This is unlawful.

With most emissions data from 2004 and the first half of 2005, the two-year period Purdue and IDEM use to calculate Boiler 1's emissions baseline is well outside of the allowed five-year period. Not only is use of this period illegal under the rules cited above, but it could have major practical implications: if emissions from Unit 1 were lower in the permissible 2005-2010 period, updating the "baseline" will result in a smaller "decrease" attributable to shutting down the units. In fact, emissions from Purdue generally appear lower after 2005 for many pollutants, including CO, NO_X, SO_2, and VOC, based on data obtained on IDEM's Emissions Summary Data website, http://www.in.gov/idem/4629.htm. We do not concede that the Emissions Summary Data website is correct, or even if it is, that all emissions are creditable. Regardless, IDEM must at a minimum revise its analysis and provide for public comment and EPA review based on emission "decreases" calculated from the contemporaneous period.

Response:

The definition for baseline actual emissions is codified in 326 IAC 2-2-1(e). Paragraph (e)(1), referenced by the commenters, applies to existing electric utility steam generating units. An "electric utility steam generating unit" is defined in 326 IAC 2-2-1(t) as follows:

> any steam electric generating unit that is constructed for the purpose of supplying more than one-third (1/3) of its potential electric output capacity and more than twenty-five (25) megawatts electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

The boilers at Purdue University do not generate electricity or steam for sale on any utility power distribution system. Therefore, Purdue does not have any electric utility steam generating units and is not considered an electric utility.

It is paragraph (e)(2) of 326 IAC 2-2-1 that governs the procedure for calculating baseline actual emissions from the boilers at Purdue University, which are "existing emissions unit[s] *other than* an electric utility steam generating unit".

326 IAC 2-2-1(e)(2) allows the applicant to look back 10 years from either the date of application or the date on which actual construction began. Even if we take the construction date, the construction commences after the issuance of the significant source modification. If, for example, the construction commenced on July 1, 2010, the baseline period for Boiler 1 could have been selected as any 24-month period from July 1, 2001, to July 1, 2010. The baseline period of February 2004 through January 2006 for Boiler 1 falls under this allowed 10 year period. The rule makes clear that the owner/operator is allowed to choose any consecutive 24-month period within the 10-year period.

Pursuant to 326 IAC 2-2-1(jj)(2), the contemporaneous period starts 5 years before commencement of construction and ends at the operation of the new or modified emission units. Supposing again that the construction commences after the issuance of the significant source modification (e.g., July 1, 2010), the contemporaneous period for all other increases and decreases should have been selected as July 1, 2005, to the start-up of Boiler 6 and Boiler 7. Since July 1, 2005, and excluding the removal of Boiler 1, there have only been slight contemporaneous increases at Purdue. Once removal of Boiler 1 is considered, the project does not result in any significant net emissions increases.

IDEM calculated correctly and included all increases and decreases during the contemporaneous period in the analyses to determine the net emissions increases.

The commenter's comments regarding allowable emissions and qualitative significance are addressed below.

Comment 5: The data for boiler 1 is outdated.

It is not clear what most recent emissions were for the boiler in question upon which the net emissions are calculated. More current data should be obtained and a new comment period be opened for the permit.

Boiler no. 1 is listed as a "backup boiler" which means that the actual emissions under this permit could be much higher than the dated emissions from boiler 1.

This is not clear in the permit since the data is old, and it is likely that the actual emissions with this modification will, in fact, be much higher than the netting analysis provides. IDEM should not be considering data which does not represent a more current emission profile.

Response:

On May 13, 2010, Purdue provided additional emissions data for January 2008 though March 2010. IDEM reviewed the new data and verified that the recent emissions from the facility do not have a significant impact on the baseline emissions from Boiler 1. In addition, 326 IAC 2-2-1(e)(1)(C) (which only applies to EGUs) and 326 IAC 2-2-1(e)(2)(D) (which applies to this permit application) specifically allow for a different consecutive twenty-four (24) month period to be used for each regulated NSR pollutant. IDEM reviewed the data submitted by Purdue and determined that the baseline periods used for the original netting analysis are representative of the normal operations.

There is no change to the results of the netting analysis as a result of this comment.

Comment 6: Purdue Can Only Apply Emission Reductions Attributable to Shutdown of Unit 1 To the Extent that the Allowable Emissions Exceed Future Emissions.

As noted above, to claim credit for an emissions decrease in an PSD netting analysis, the "baseline" emissions must be at or below the "allowable" emissions. 326 IAC 2-2-1(jj). Put another way, the creditable decrease must be reduced "to exclude any noncompliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the consecutive twenty-four (24) month period." 326 IAC 2-2-1(e)(B).

It does not appear that IDEM considered whether any of the prior emissions from Boiler 1 were noncompliant. For example, if Boiler 1 had been modified, within the meaning of 42 U.S.C. Sections 7411 or 7475 and 326 IAC 2-2-2, prior to or during the 24-month "baseline" period, these modifications would constitute "major modifications" and trigger the NSPS and BACT limits for the units. Nor did IDEM consider whether the "MACT Hammer" for existing industrial and commercial boilers, pursuant to section 112(j) of the Clean Air Act, following the vacatur by the D.C. Circuit in *Natl. Res. Def. Council* v. *EPA,* 489 F.3d 1250 (D.C. Cir. 2007), required emission reductions during the baseline period.

Consequently, the "allowable" emissions for the units would be much lower than the actual emissions and Purdue could only take credit for the allowable emissions (excluding any noncompliant emissions). Reducing the creditable emission reductions to only those emissions that were allowable would result in significant net emission increases attributable to the proposed project.

Thus, when IDEM conducts the new PSD applicability analysis using the proper two year period for baseline emissions, it should also evaluate whether any of the emissions from Unit 1 during and prior to this baseline period were noncompliant and must be excluded from the baseline emissions.

Response:

IDEM checks for current compliance issues and/or enforcement actions during the processing of all permit applications. For this project, IDEM determined that "There are no pending enforcement actions related to this modification."

IDEM is not aware of any modifications that triggered or will trigger NSPS or BACT requirements due to NSR review.

U.S. EPA recently clarified in 40 CFR 63.7495 (proposed Boiler MACT) that "If you have an existing boiler or process heater, you must comply with this subpart no later than [3 YEARS AFTER DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER]." Therefore, Purdue will have 3 years from the date the revised Boiler MACT rules are promulgated to incorporate the requirements and compliance options into their Part 70 Operating Permit.

There are no changes to the permit as a result of this comment.

Comment 7: The Emissions From the Existing Boiler 1 Do Not Have the Same Qualitative Significance as the New Emissions.

To be a "creditable decrease," the old emissions must have the same "qualitative significance" as the new emissions. 325 IAC 2-2-1(jj). Yet there is no indication IDEM considered the qualitative significance of the emissions from Boiler 1 and Boilers 6 and 7. There is good reason to consider the qualitative significance of the Boilers' emissions. Boiler 1 has doubtless declined in operating time and emissions since its construction forty years ago, operating at a fraction of its original capacity. In contrast, the emissions from the new units will likely increase over the first few years of operation and then stay at a high rate for decades. The emissions will also be higher during the ozone season, when the existing units have not experienced high operating rates. These are significant qualitative differences between the old and new emissions that disqualify the old emissions as "creditable."

Due to differences in stack height and dispersion, emissions from the old boilers will have very different localized impacts than emissions from the new stacks. For example, contributions of NO emissions to NO_2 concentrations and NO_X and SO_2 to secondary particulate will depend on stack height and flue gas properties. NAAQS impacts for all pollutants will not be the same for the new boilers' emissions. IDEM has made no effort to compare the qualitative impacts of the emissions from the old boilers and the proposed new boilers and, therefore, has no basis to determine that emission reductions from the old boilers are creditable.

Response:

The term "qualitative significance" is found in Indiana's NSR rules at 326 IAC 2-2-1(jj):

> (6) A decrease in actual emissions is creditable only to the extent that: . . . (C) it has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change; . . . .
> *See, 40 CFR 52.21(b)(3)(vi)(C).*

In a June 28, 1989 rulemaking, the U.S. EPA described some situations it thought this provision could address: "Examples of specific concerns are variations in pollutant carcinogenicity and volatile organic compounds (VOC) reactivity, and in air quality impact as a result of different stack heights." 54 Fed. Reg. 27286. The EPA recognized that its policy is to limit the application of the qualitative significance provision "unless, and until, specific guidance on how to address these comparisons is issued." *Id*. IDEM is not aware of any EPA guidance on this topic. Further, EPA has explained, "where netting takes place between the same or similar combustion units, fuels, or processes, equivalency may, in most cases, be assumed." *Id.*

For this project, there is no data to indicate that the emissions decrease from Boiler 1 would not have the same qualitative significance as the increase from Boiler 6. Purdue will be using the same fuel type for Boiler 6 as is currently used for Boiler 1, the new Boiler 6 will be located in the footprint of the retired Boiler 1, Boiler 6 will exhaust through the same stack that Boiler 1 currently uses, there are no noted toxicity or reactivity differences between the offset emissions, and the emissions increases/decreases occur within the appropriate time period . There are no changes to the permit as a result of this comment.

Comment 8: IDEM improperly used PM_{10} as a surrogate for $PM_{2.5}$ in its PSD netting analysis.

IDEM's PSD applicability analysis is faulty because it uses PM_{10} as a surrogate for $PM_{2.5}$. When IDEM revises its PSD applicability analysis to address the netting problems identified above, it should also independently assess $PM_{2.5}$. As IDEM acknowledges, $PM_{2.5}$ is a "Regulated NSR pollutant" (i.e., a "pollutant subject to regulation under the Act") because EPA established a NAAQS for $PM_{2.5}$ in 1997. *See* 62 Fed. Reg. 38711; 40 CFR 50.7. However, IDEM claims in the TSD that it is *required* to regulate PM_{10} emissions as a surrogate for $PM_{2.5}$ emissions until Indiana's SIP is revised to include federal PSD requirements for $PM_{2.5}$. TSD at 2. Then, in the PSD applicability analysis, IDEM uses the PM_{10} potential to emit numbers for $PM_{2.5}$'s potential to emit for several new emissions sources, including Boilers 6 and 7. *E.g.*, TSD at 11; TSD Appendix. A at 1. IDEM's calculations also assume the *limited* potential to emit for PM_{10} and $PM_{2.5}$ is the same, i.e. that $PM_{2.5}$ will be controlled to the same extent as PM_{10} by the planned baghouse on Boiler 6 and its coal support facilities. TSD at 22; TSD Appendix. A at 1.

IDEM fails to acknowledge that, for PSD purposes, PM_{10} can only be used as a surrogate for $PM_{2.5}$ when certain showings have been made. This was clarified by U.S. EPA in a Title V petition response issued last year: *In re Louisville Gas & Electric Co*., Petition No. IV-2008-3, Order at 42-46 (EPA Administrator Aug. 12, 2009), hereinafter "*Trimble*." *Available at* http://www.epa.gov/region7/air/title5/petitiondb/petitions/lg_e_2nddecision2006.pdf.

Because IDEM's PSD applicability analysis found no significant net emissions increase of $PM_{2.5}$ or PM_{10}, it did not determine BACT for either pollutant. However, in conducting its PSD applicability analysis in the first instance, IDEM should not have used PM_{10} as a surrogate for $PM_{2.5}$ without conducting the analysis suggested in the Trimble decision. That is, IDEM should have "address[ed] the differences" between $PM_{2.5}$ and PM_{10}—for example, by analyzing whether the planned baghouse on Boiler 6 will really limit the potential to emit $PM_{2.5}$ to the same extent as PM_{10}, as IDEM now assumes. *Trimble* at 44; TSD Appendix. A at 1; 326 IAC 2-2-1(nn) (defining potential to emit). IDEM should have also "establishe[d] in the permit record a strong statistical relationship between PM_{10} and $PM_{2.5}$ emissions from the proposed unit, both with and without the proposed control technology in operation." *Trimble* at 45. If IDEM did not correctly calculate $PM_{2.5}$ emissions in the netting analysis, that analysis is likely faulty and could mean BACT is triggered for the new emissions units.

EPA has recently reiterated the analysis in Trimble in a formal notice that it is ending the PM_{10} surrogacy policy. 75 Fed. Reg. 6827 (Feb. 11, 2010). If PSD is triggered, IDEM must of course conduct a host of other analyses.

For these reasons, IDEM must revise the netting analysis for $PM_{2.5}$.

Response:

IDEM did not use PM_{10} as a surrogate for $PM_{2.5}$.

- Boiler 1 $PM_{2.5}$ baseline emissions are calculated using test data for $PM_{2.5}$ - all heating emission rates are based on a November 2008 stack testing result of 0.262 lb/MMBtu.
- Boiler 6 $PM_{2.5}$ emissions estimates are based on the boiler manufacturer's estimate of 0.14 lb/MMBtu.
- Boiler 7 $PM_{2.5}$ emissions estimates and all other natural gas combustion units' emissions estimates are based on the AP-42, Chapter 1.4 emission factor of 7.6 lb/MMCF.
- Limestone handling $PM_{2.5}$ emissions estimates are based on the AP-42, Chapter 11.17-4 emission factor of 2.2 lb/ton.
- Coal handling $PM_{2.5}$ emissions estimates are based on the AP-42, Chapter 13.2.4 emission factor of 0.062 lb/ton.

- Ash handling $PM_{2.5}$ emissions estimates are based on the AP-42, Chapter 11.12-2 emission factor of 1.1 lb/ton.
- Emergency equipment $PM_{2.5}$ emissions estimates are based on AP-42 emission factors.
- Poultry incinerator $PM_{2.5}$ emissions estimates are based on AP-42 emission factors.

Further, the arguments provided by the commenter apply, if at all, to situations where best available control technology (BACT) is being applied to an already-determined significant net emissions increase, not where NSR applicability is itself being determined. Finally, the permit applicant was overly conservative in its netting analysis because, for purposes of that calculation, it used past actual $PM_{2.5}$ emissions yet assumed that all new particulate to be emitted from Boilers 6 and 7 were $PM_{2.5}$, even though it is known that a portion of those new units' emissions would be larger than $PM_{2.5}$. There are no changes to the permit as a result of this comment.

Comment 9: IDEM does not adequately explain how its compliance determination and compliance monitoring methods will ensure compliance with PM, PM_{10}, and $PM_{2.5}$ limits.

The Draft Permit contains emissions limits for PM, PM_{10}, and $PM_{2.5}$ from the boilers and their associated support equipment to prevent the addition of these sources from being a major modification for PSD purposes. TSD at 16. The Draft Permit purports to achieve these limits by requiring certain control technology and primarily relies on opacity monitoring to ensure these limits are observed. *Id*. at 22-24. Yet IDEM has not adequately explained how the permitted controls and monitoring will ensure compliance with the chosen PM, PM_{10}, and $PM_{2.5}$ emission limits, and in some cases CO and HCl limits as well. The Draft Permit and supporting analysis must accordingly be revised. Title V and its implementing regulations require IDEM to include in the permit "terms, test methods, units, averaging periods and other statistical conventions consistent with the applicable requirement," for the relevant time period, that are sufficient to assure compliance with applicable emission limits. 40 C.FR. 70.6(a)(3)(B), (C), 70.6(c); 326 IAC 2-7-5(1), (3) (requiring all Title V permits to include emissions limitations and "[m]onitoring related record keeping and reporting requirements, which assure that all reasonable information is provided to evaluate *continuous* compliance with the applicable requirements") (emphasis added).

Parametric monitoring must also be sufficient to assure compliance. The U.S. EPA recently found certain parametric monitoring deficient: *In re WE Energies Oak Creek Power Plant*, Title V Permit No. 241007690-P10, Order at 15-16 (June 12, 2009). *Available at* http://www.epa.gov/region7/air/title5/petitiondb/petitions/oak_creek_decision2007.pdf.

Just as important as the requirement that permits contain sufficient compliance monitoring is the requirement that the permitting authority explain the basis for a proposed permit's monitoring scheme (*i.e*., how the required parametric monitoring will be used to determine emissions for compliance demonstration purposes).

For **Boilers 1 and 2**, the Draft Permit relies on an ESP and baghouse for compliance, respectively, as well as a continuous opacity monitoring system (COMS). Draft Permit at 35-38; TSD at 22-23. While the ESP and baghouse are required to be operational at all times, parametric monitoring of the ESP and baghouse appears only to be required when the COMS is not operational. Draft Permit at 37-38. Opacity limits are 40% unless there is startup and shutdown or certain other events (like removing ash), in which case the limit is 60%. *Id*. at 34-35. However, the Draft Permit also requires "response steps" anytime opacity exceeds 25% for Boiler 1, and 20% for Boiler 2. *Id.* at 37.

There are two problems with this methodology. First, IDEM has failed to explain how compliance with the 40% opacity limit—or 20/25% or 60%, depending on the circumstances—ensures compliance with the applicable PM limits for Boilers 1 and 2. Second, IDEM has failed to explain how the parametric monitoring for the ESP (relying on voltage) and baghouse (relying on a 1-7" pressure drop range), with "response steps" required after an excursion, ensures continuous compliance with the PM limits for these boilers. Merely stating the monitoring requirement, without demonstrating its connection to the underlying limit and explaining how the monitoring requirement is sufficient to ensure continuous compliance does not satisfy the minimum requirements applicable to IDEM.

Boilers 5 and 6's compliance determination and monitoring provisions suffer from the same problems. Instead of an ESP, Boilers 5 and 6 rely on a baghouse only to control emissions, and COMS to ensure compliance. These boilers are subject to the same opacity limits as Boilers 1 and 2 (40%, 60%, and 20% depending on the circumstances) and the requirement for "response steps." *Id*. at 42-46. The permit again fails to explain how these opacity monitoring requirements, or how the backup baghouse parametric monitoring or Method 9 readings, will ensure continuous compliance with the applicable limits.

The CO monitoring provisions for Boilers 5 and 6 are likewise deficient. The CO limit on Boiler 5 is 0.27 lb/MMBtu, and for Boiler 6 is 214.17 tons per 12 consecutive month period, with compliance determined at the end of the month. Boiler 5's limit is instantaneous, yet compliance is determined through stack testing that must occur on an unspecified timeline. Draft Permit at 43, 48. Vague stack testing requirements are facially insufficient to determine compliance with an instantaneous limit. Boiler 6's CO compliance must be determined monthly through biennial stack tests, monthly coal usage, and coal higher heating value, but IDEM fails to explain how this monitoring scheme, will ensure compliance with the limit. Draft Permit at 43, 48. The Be and H_2SO_4 emission limits on Boiler 6 suffer from the same problem. Draft Permit at 41-42; TSD at 11. It is also unclear how biennial testing will assist Purdue in fulfilling its obligation under Title V to annually certify compliance with all applicable limitations. IDEM must rectify this problem.

Finally, Purdue has elected a hydrochloric acid (HCl) limit on Boiler 6 to remain a minor source for HAP purposes; the limit is "less than 10.0 tons" per 12 consecutive month period with compliance determined at the end of the month. Draft Permit at 42. Without the limit, Boiler 6's potential to emit HCl is 33.29 TPY. TSD Appendix. A at 1. Yet the HCl monitoring requirements are murky. The Draft Permit requires biennial stack testing and record-keeping of monthly coal usage and coal higher heating value. Draft Permit at 43. 48-49. Again, there is no indication how these monitoring provisions will ensure compliance with the "less than 10.0" TPY limit, especially when compliance is to be determined monthly. We note that other recent permits for coal boilers that are intended to keep HCl emissions below the major source threshold require HCl continuous emission monitors to ensure that emissions are, in fact, below the threshold.

Monitoring requirements for **coal handling and storage** are also deficient. These facilities are subject to a 8.0 TPY limit on PM, PM_{10}, and $PM_{2.5}$, determined monthly. Draft Permit at 55-56. Yet compliance is determined by "visible emissions notations," parametric monitoring of the baghouse pressure drop, and monthly coal record keeping, yet IDEM has not explained how these measures will ensure compliance with the limit. *Id*. at 57-59. The same problems are apparent with the **ash handling system**, though are worse because the PM and PM_{10} limits there are hourly: 5.71 lb/hr and 3.42 lb/hr, respectively, and the **limestone injection/handling system**'s PM, PM_{10}, and $PM_{2.5}$ limits. Id. at 60-68.

Sierra Club agrees with the Draft Permit's requirement for continuous emission monitors (CEMS) to ensure compliance with NO_X and SO_2 limits, and given the problems with relying on opacity and other monitoring provisions identified above, suggests IDEM require PM CEMS as well. Continuous emissions monitoring systems (CEMS) are the preferred method for determining compliance with PM limits. *See e.g.*, 40 CFR 60.42, *et seq.* Coal fired electric generating units are installing PM CEMS. American Electric Power agreed to install PM CEMS on some of its existing coal plants and EPA has secured commitments from up to 30 existing coal-fired utility installations to install PM CEMS over the next few years. There are many other facilities that operate PM CEMS and have demonstrated that the systems are reliable and accurate. These include Tampa Electric power plant (Florida), Eli Lilly Corporation (Indiana), and the U.S. Department of Energy (Tennessee). US EPA has strongly urged PM CEMs, and determined that PM CEMS are reliable and accurate.

A 2000 EPA document describes at least two technologies that should be considered for continuous PM monitoring: Light Scattering (An emitted light beam passes through a defined sample volume); and Acoustic Energy (Shock waves caused by the impact of particles with a probe inserted into the flow are used to measure the particulate concentration). "Current Knowledge of Particulate Matter (PM) Continuous Emission Monitoring," EPA-454/R-00-039, September 2000.

We also note that IDEM recently sought and obtained from EPA a SIP revision allowing PM CEMS for the Indianapolis Power and Light Company's Harding Street Generating Station. 75 FR 18757 (Apr. 13, 2010). Thus, IDEM must also agree that PM CEMS are an accurate method to ensure compliance with PM limits.

For the reasons found by EPA in its proposed findings of fact in the *U.S. v. Cinergy* trial (and which the Court later accepted, 2009 U.S. Dist. LEXIS 45426, 82 (S.D.Ind. May 29, 2009)), IDEM should require PM CEMS to measure compliance with the PM limits in the permit, and establish a correlation between the PM CEMS filterable PM measurements and total PM to measure compliance with the total PM limits in the permit.

Response:

The commenter generally questions the sufficiency of monitoring requirements contained in the permit to assure compliance with certain terms and conditions of the permit. IDEM maintains that it has included all the testing, monitoring, record keeping, and reporting requirements that are necessary to satisfy the Clean Air Act Part 70 permit requirements as well as the 40 CFR Part 64 Compliance Assurance Monitoring (CAM) requirements for CAM units/operations. IDEM has considered the usefulness of each monitoring and recordkeeping requirement contained within this permit and all of the permits it issues, and includes only those requirements that correlate to an emissions limitation or indicator of emissions. As part of the renewal application and permit modification application Purdue was required to complete and provide to IDEM a number of forms that detail both the control devices at the source and compliance determination methods for emissions limitations. These forms are publicly available at the West Lafayette Public Library (208 Columbia Street, West Lafayette), and have been available for public review since the draft permit was circulated for public comment on March 12, 2010. As part of its permitting process, IDEM staff review these documents and make determinations as to their sufficiency and completeness. 326 IAC 2-7-4(a)(2); *see also* 326 IAC 2-7-4(c).

Particulate Matter from Boilers

IDEM's determination concerning the sufficiency of COMS data, baghouse and ESP usage, and Visible Emission Notations (VE Notations) is based on the common use of opacity as an indicator of PM emissions. As noted in EPA documents, "If the opacity is increasing, [one] can reasonably assume that PM emissions are increasing." Proposed Compliance Assurance Monitoring (CAM) Protocol for an Electrostatic Precipitator (ESP) Controlling Particulate Matter (PM) Emissions From A Coal-Fired Boiler, at 3, April 2003 (*available at:* http://www.epa.gov/ttn/emc/cam/espcam.pdf). The COMS operational requirement for Boilers 1, 2, 5, and 6 relies on the relationship between opacity and PM emissions to support the use of a continuous opacity monitor as compliance assurance with the applicable PM limits. In addition, IDEM requires all sources using continuous monitors, including COMS, to comply with the applicable portions of 326 IAC 3-5 *et seq*., which specify *inter alia* calibration, certification, and reporting requirements, as well as daily procedures related to the monitoring device and quality assurance and control protocols.

This continuous monitoring method is enhanced by regular stack testing at two-year intervals for PM. *See*, *e.g.,* 40 CFR 60.48b. IDEM has determined that biennial frequency of stack testing for PM is appropriate given the variables of the size and type of the emission units in question, use of and maintenance of associated control equipment, and the performance history of stack tests conducted by the source. Memorandum from Director of EPA Office of Compliance, to Regional Compliance/Enforcement Division Directors regarding Issuance of Final Clean Air Act National Stack Testing Guidance, 4 (originally issued on Sept. 30, 2005, and reissued on April 27, 2009) (*available at*: http://www.epa.gov/ttn/emc/guidlnd/gd-050.pdf). Moreover, pursuant to Condition C.9 – Compliance Requirements, IDEM may require additional stack testing "at any time" to assure compliance with an applicable requirement, such as PM.

IDEM also understands that PM can be effectively reduced by using properly operated and maintained baghouse and ESP technology in combination or separately. To support this relationship, the permit requires that this equipment be regularly maintained and operated at all times while the associated boilers are in operation. *See* D.1.9, D.1.13, D.1.16, D.2.12, and D.2.15. Proper and consistent operation of the control devices, corroborated by stack testing data, should result in compliance with applicable PM limits.

The use of parametric monitoring for baghouse and ESP control equipment and VE Notations in the permit relies on a combination of the above-referenced assumptions to demonstrate compliance with the PM limits, namely that opacity is an indicator of PM and proper operation of the control devices results in effective control of PM emissions. Because each boiler is equipped with COMS to monitor opacity during normal operations, parametric monitoring and/or VE Notations are used only when a COMS is not operational to avoid redundancy and the unnecessary incurrence of additional costs to the source.

Because opacity is being used as an indicator of PM, the response steps required by Conditions D.1.13 and D.2.14 are imposed at 20% and 25% because IDEM has determined that opacity below these levels are indicative of baghouse operation in a manner necessary to comply with the particulate emission standard. Should opacity go above these levels, the response steps requirement is imposed requiring the source to undertake additional investigation/steps to ensure that overall boiler operation is conducted in a manner that does not risk compliance with the PM limits. For this reason opacity in excess of the applicable 20% is not a violation of D.1.13 and D.2.14 of the permit. As explained in the TSD,

> "If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period."
>
> TSD at 22.

However, when opacity exceeds either 40% or 60%, as explained in Conditions C.2, D.1.6, and D.2.5, Indiana's rules identify this exceedance as prima facie evidence of a particulate matter emission violation. 326 IAC 5-1-5. As provided in Indiana's rules, a source can make a demonstration that such an exceedance is not a violation of the applicable PM standard. EPA's approval of Indiana's proposed SIP revision to incorporate various portions of 326 IAC 5-1 *et seq*. further explains the relationship of 40% limit and the allowable temporary alternative opacity limit of 60% for certain units, which include Purdue's boilers. 67 Fed. Reg. 46,589, 46,590-93 (Jul. 16, 2002) ("These 60 percent limits are in addition to the general 6-minute average opacity limits in 326 IAC 5–1– 2 (40 percent, 30 percent, or 20 percent, depending on the location of the source), and are meant to prevent repeated, short-duration high-opacity emissions which may not last long enough to cause a violation of a 6- minute average opacity limit. There is no language in 326 IAC 5–1–2(1)(B) or (2)(C) which exempts sources from other applicable opacity limits. Therefore, it would be a violation of the rule if opacity were to exceed *either* the appropriate 6-minute average opacity limit or the 60 percent 15-minute cumulative limit."). Where applicable, the NSPS also contains opacity limits that must be considered.

While IDEM is aware of the use of PM CEMS, PM CEMS is not the only means of demonstrating compliance with a PM standard. Indeed, EPA guidance on presumptively acceptable CAM monitoring for Industrial Boilers' Compliance Assurance Monitoring does not specify a PM CEMS. *See* Proposed Compliance Assurance Monitoring (CAM) Protocol For An Electrostatic Precipitator (ESP) Controlling Particulate Matter (PM) Emissions From A Coal-Fired Boiler, at 14, April 2003 (*available at:* http://www.epa.gov/ttn/emc/cam/espcam.pdf). The commenter notes that another Indiana facility chose to comply with its particulate limits by using a PM CEMS. However, there are no regulatory requirements dictating that a PM CEMS is the only method for adequately monitoring particulate emissions. The requirements to stack test, use a baghouse, operate a COM, and keep certain records with respect to Boiler 6 provide sufficient monitoring designed to assure compliance with the permit's limits. IDEM has confidence in the existing monitoring identified in the permit for PM for each boiler, and it will not require Purdue to install any PM CEMS.

Other emissions from Boilers

As noted above, the frequency of stack testing imposed by the permit is based upon IDEM's consideration of the variables of the size and type of emission units in question, use of and maintenance of associated control equipment, and the performance history of stack tests conducted by the source. Memorandum from Director of EPA Office of Compliance, to Regional Compliance/Enforcement Division Directors regarding Issuance of Final Clean Air Act National Stack Testing Guidance, 4 (originally issued on Sept. 30, 2005, and reissued on April 27, 2009) (*available at*: http://www.epa.gov/ttn/emc/guidlnd/gd-050.pdf). Moreover, pursuant to Condition C.9 – Compliance Requirements, IDEM may require additional stack testing "at any time" to assure compliance with any applicable requirement. As with all stack tests, this procedure is required to verify the emission rate of the emissions of concern. IDEM has determined that its stack testing procedures are sufficient to document compliance with existing Boiler 5's CO limit; furthermore, past stack test results carried out pursuant to the existing Boiler 5 CO requirement have not demonstrated a problem with establishing continual compliance. However, in the case of the new Boiler 6's CO emissions, the source has chosen to install a CO CEMS. IDEM accepts this change and has revised the permit as explained in its response to Purdue Comment 8, above. The data from the CEMS in conjunction with the CO emissions rate monitoring from Boiler 7 will provide data to determine compliance with the combined CO limit on these boilers. (IDEM's satisfaction with the type of compliance monitoring, also imposed on Boiler 7, is explained below.)

IDEM additionally relies on the emission rates of Be, H_2SO_4, and HCl established using emissions rate data derived from sources that IDEM finds credible – AP-42 factors, comparable data from similar sources, and manufacturer's guarantees. *See* Appendix A to the TSD at 3. Because these rates are expressed per weight unit of coal or MMBtu, the source and IDEM can assess compliance with the tons per year limits of each of these emission limits by monitoring the coal usage and higher heat value of the coal and performing a basic calculation. D.2.18 (d-f). The source is required to report the results of these calculations quarterly and identify any noncompliance with its applicable limit. These procedures and calculations are designed to monitor continuous compliance using a 12-month rolling average; any noncompliance will be subject to enforcement action, as is the case for all noncompliance, regardless of when such noncompliance is detected. Therefore, IDEM finds that the additional monitoring associated with the emissions of Be, H_2SO_4, and HCl are sufficient to document continuous compliance.

PM emissions from Handling Operations

As noted above, IDEM relies on opacity as an indicator of PM emissions and the various handling operations are subject to opacity limitations as a means of demonstrating compliant PM emissions. To that end, IDEM has imposed the requirement that VE Notations be conducted in accordance with Method 9 procedures to document the opacity of these operations.

Also, as above, IDEM relies on the use of control equipment to limit PM emissions. The permit contains parametric monitoring requirements designed to document the performance of this PM control equipment, and requires the source to undertake additional "response steps" when these parameters indicate a control efficiency less than that used to calculate the applicable PTE for PM. Conditions D.5.7, D.6.8, D.7.7, TSD, Appendix A, at 5-7. In addition, Purdue is subject to work practice control requirements to minimize PM emissions from these handling operations, which assist the mechanized control devices in reducing PM emissions.

Finally, IDEM has concluded that the PM emissions for these processes can be determined using a formula that is based on the tons of coal, flyash, or limestone processed. D.5.5, D.6.6, and D.7.5. The requirements of the permit obligate Purdue to monitor these amounts of materials processed, perform the applicable calculation, and provide the results to IDEM, including compliance with the tons per year PM limits. D.5.10, D.5.11, D.6.10, D.6.11, D.7.9, and D.7.10. These procedures are designed to monitor the source's continuous compliance, using a 12-month rolling average; any noncompliance will be subject to enforcement action, as is the case for all noncompliance, regardless of when such noncompliance is detected. Therefore, IDEM finds that the additional monitoring associated with the PM emissions from the handling operations are sufficient to document continuous compliance.

Annual Compliance Certification

With respect to the source's ability to certify compliance with any given emission limit in its Annual Compliance Certification, IDEM notes that the maintenance of records, conduction of inspections and investigations necessary to support a statement of "compliance" are the responsibility of each source. Whether the source requires additional assurances from a more frequent than biennial stack test for certain emissions is up to each source's prerogative. While IDEM designs its permits' minimum requirements to accurately record procedures and data necessary to evaluate whether there has been continuous compliance with applicable limits (and conducts random inspections and record reviews to ascertain a source's compliance status), determinations regarding an annual certification of compliance lie with the source and its responsible official. Condition B.10 and 326 IAC 2-7-6(5).

Comment 10: The permit application fails to include, and IDEM fails to require, all necessary Preventive Maintenance Plans.

The U.S. EPA confirmed last year that plans referenced in a permit or relied on by a permitting agency in any way in determining that the plant will comply with any applicable limit or monitoring requirement must be: (1) reviewed and approved by DNR as part of the permit; (2) subject to public notice and comment; and (3) made part of the permit. *In re We Energies Oak Creek Power Plant*, Order at 24 (EPA Administrator June 13, 2009).

IDEM allows Purdue to put off submitting plans that determine compliance until after the permit is issued. These plans include (but may not be limited to) Preventive Maintenance Plans (PMPs) for the boilers and other sources at Purdue, as well as their control devices. *E.g.*, Draft Permit at 35, 43, 50, 56, 61, 66, 70. The permit pages referenced for each of these plans are only examples. The plans are referenced throughout the Draft Permit. For new sources, Purdue does not need to submit a PMP to IDEM until 90 days after permit issuance or 90 days after initial start-up, whichever is later, and can submit the plans at an even later date with IDEM's leave. Draft Permit at 17.

There is no doubt the PMPs are intended to ensure compliance and act as a monitoring requirement. In fact, IDEM states that it may require the source to modify its PMP "whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions." Draft Permit at 18.

IDEM must, at a minimum, require these plans, review them for adequacy, explain its basis for proposing to approve the plant in the statement of basis (TSD), provide a public notice and comment period, and then adopt the plans into the permit.

Response:

IDEM disagrees with the commenter's statement that the agency relies on the operation of plans such as preventive maintenance plans (PMPs) to achieve and maintain compliance with the emission limitations set forth by the Permit. IDEM's treatment of plans such as these, including whether the details of the plan are included in the permit and its availability for public review or comment, is specific to the regulations that underpin each plan and complies with the Title V rules.

IDEM has reviewed the order issued by the Administrator *In the Matter of WE Energies Oak Creek Power* (No.241007690-PID) ("*WE Oak Creek Power*"). IDEM understands the order as EPA's application of basic provisions of the Title V program to certain plans referenced in the Wisconsin Department of Natural Resources ("WDNR") Title V permit issued to Oak Creek Power. For instance, as explained in the order: "40 CFR 70.6(a)(1) requires that each permit include 'emission limitations and standards, including those operations requirements and limitations that assure compliance with all applicable requirement[s].'" *WE Oak Creek Power*, at 25 (bracketed portion added). Additionally, the order explained that 40 CFR 70.5(c) requires a plan to be included in the Oak Creek Title V permit application, when the content of the plan "is information necessary to impose ... applicable requirements, i.e., the facility must submit and comply with an approved [plan]." *WE Oak Creek Power* at 26 (bracketed portion added).

The plans at issue in the *WE Oak Creek Power* order were specific to Wisconsin and its regulatory program, which is distinct from Indiana's regulatory program. The plans called for in an IDEM permit are different, not only at this basic level of authority from those in *WE Oak Creek Power*, but they also are factually distinguishable from the plans at issue in the order. Moreover, as the following discussion explains, the treatment of the source's PMPs comply with the mandate of 40 CFR 70.5(c) and 70.6(a)(1). Therefore, IDEM will not require the inclusion of any PMP as part of the permit. Importantly, regardless of whether these plans are included in the permit, the source remains obligated to comply with the plan-specific requirements, and either IDEM or EPA may seek enforcement action to the extent any non-compliance with such requirements is determined. Non-compliance may be determined, for example, during an inspection, request for records pursuant to Condition B.8 (Duty to Provide Information), or as part of the source's annual compliance certification, pursuant to Condition B.10 (Annual Compliance Certification).

The source is required to maintain and implement a PMP whenever a specific D Section condition dictates. The PMP has a close parallel with a plan described in *WE Oak Creek Power*. However, the important difference between the PMPs that the source is required to maintain and implement in the instant permit and the "malfunction prevention and abatement plan (MPAP)" described in *WE Oak Creek Power* is that, whereas a PMP is a tool used by the source to maintain its equipment as a means of documenting normal maintenance, an MPAP was determined by EPA to be a compliance assurance mechanism.

The compliance assurance role of an MPAP was identified by the Administrator citing the following language from the Oak Creek Power permit: "The permittee shall perform inspections of each electrostatic precipitator *in accordance* with an approved [MPAP] *to ensure that the control equipment is operating properly*." *Oak Creek Power*, at 25 (emphasis added, bracketed portion added). Additionally, the Administrator placed weight on the fact that the Oak Creek Power MPAP(s) were required to be approved by the WDNR. ("Furthermore, along with the construction permit requirement to comply with an MPAP approved by WDNR, the permit also requires ESP inspection in accordance with an approved MPAP as a means of demonstrating and monitoring compliance with the PM limit[.]" *Id.* 25-26.) Because an MPAP is a compliance assurance mechanism, and its contents required the WDNR's approval, the Administrator found that 40 CFR 70.6(a)(1) mandated its inclusion in a Title V permit.

As noted, *supra*, IDEM's PMP requirement is not an operation requirement that assures compliance with an applicable requirement. Indiana's PMP is not used as a means of demonstrating and monitoring compliance with any emission limit. It is not used to determine if equipment or control devices are operating properly. All of the Title V compliance determination requirements and compliance monitoring requirements exist independently of the requirement to have and implement a PMP. The PMP has no role in determining whether the source meets any compliance determination or compliance monitoring requirement.

Instead, the requirement to have a PMP itself, found at 326 IAC 1-6-3, is an applicable requirement. *See* 326 IAC 2-7-1(6); 40 CFR 70.2 (definition of "applicable requirement"); 55 Fed. Reg. 18,604 (May 3, 1990) (incorporating 326 IAC 1-6-3 into Indiana's SIP). And, unlike the WDNR's Oak Creek Power MPAP, IDEM's prior approval is not required for the PMPs. (If requested, PMPs are subject to review and approval in light of site-specific conditions, which are best determined once the source is built and operating. Condition B.10(b); 326 IAC 1-6-3(b).)

Under Indiana's rule 326 IAC 2-7-5(13), every Part 70 permit must contain a provision that requires the source to maintain a Preventive Maintenance Plan (PMP) on-site, implement the PMP, and, if requested, forward a copy of the PMP to IDEM. The source is not required to include a copy of the PMP in its permit application. Instead, 326 IAC 2-7-4 (9) requires that the application contain a confirmation that the source has a PMP and that, if requested, it will send a copy to IDEM. The general Preventive Maintenance Plan Requirements for Purdue are contained in Condition B.11 of the permit.

Comment 11: Operation of the Purdue plant, and therefore issuance of the permit, will violate the standards of IC 13-30-6.

By granting authority to operate the Purdue plant, IDEM would be allowing pollution that has and is reasonably likely to have the effect of impairing, polluting, or destroying the environment. Yet IDEM makes no determinations on whether the permit complies with IC 13-30-1-6, despite its mandatory obligation to do so under the statute. Commenters incorporate herein their petition on this issue, which is attached to these comments and which shows IDEM cannot grant the proposed permits for the Purdue plant.

This law requires the agency—here, IDEM—to go beyond the minimal standards in federal and state law to evaluate a proposal's impact. In other words, it requires IDEM to do more than simply evaluate the proposed permit's compliance with numerical air quality standards, which it is already required to do. *See generally* 326 IAC 2-1.1-5. Any other interpretation would impermissibly render IC 13-30-1-6 mere surplus regulatory language. *Pabey v. Pastrich*, 816 N.E.2d 1138, 1148 (Ind. 2004).

Instead, IC 13-30-1-6 requires IDEM to consider a project's environmental impact separately from these rules under the following standard. Petitioners can show the standards of IC 13-30-1-6 and 13-11-2-5 are met here. Emissions of $PM_{2.5}$ and CO_2 from the Purdue plant will or, at a minimum, are reasonably likely to, impair, pollute, or destroy the environment due to the dangerous effects of these pollutants on the environment and, consequently, human health. Additionally, there exist feasible and prudent alternatives to approving the Purdue permits as proposed, including using alternative fuels instead of coal and including emission limits on $PM_{2.5}$ and CO_2. The proposed permit thus should not be approved.

Response:

IDEM understands that the comment refers to IC 13-30-1-6, rather than IC 13-30-6, which has been repealed.

Commenters (also referred to as Petitioners, based on their styled "Petition to Intervene" filed with IDEM) propose a novel reading of IC 13-30-1 *et seq*. with their comment/Petition to Intervene. IDEM disagrees with Petitioners' propositions that IC 13-30-1-5 provides them with a right to intervene in this permitting action and that IDEM is required to consider the review requirements set forth under IC 13-30-1-6 in the permit renewal process. Furthermore, because IDEM believes that the Petitioners' filing of their *Petition to Intervene* in this matter is procedurally in error, it is IDEM's position that the error renders the petition void; this means that no further action (*e.g.*, a denial) by IDEM is required. As there is no statutory instruction regarding the treatment of an erroneously filed pleading, and because IDEM received the "Petition to Intervene" during the public comment period, pursuant to 326 IAC 2-7-17(c)(5), IDEM is printing a response to the Petition as part of the proceedings for the Purdue permit decision.

At the outset, IC 13-30-1-9 states that "[a]n action under this chapter must be brought in a circuit or superior court in the county in which the significant pollution, impairment, or destruction is alleged to have occurred." This statute suggests that Commenters' petition to intervene, if it is proper, is not filed in the correct venue. The fact that the "petition to intervene" has not been filed in the appropriate venue reinforces IDEM's position on the styled "petition" as explained below – that is, that the ability to intervene in this permitting action is, itself, incorrect because there is no on-going legal action in which to intervene.

Petitioners cite no case law interpreting IC 13-30-1-5 and -6 in a manner that allows intervention in the permit proceeding or that requires IDEM to consider the review requirements set forth under IC 13-30-1-6 in the permit process. To the contrary, case law directly addressing the applicability of IC 13-30-1-5 contradicts the Petitioners' positions. While the case law does not address IC 13-30-1-6 directly, its holding is equally applicable to the appropriate use of this section of the code, as described in detail below. Additionally, the inability of the Petitioners to intervene in the permit process does not leave them without an opportunity to participate in the permit process. Petitioners are afforded opportunities under State law to participate in the permit process and to dispute the terms of the proposed permit through the public notice and comment process. For these reasons, as set forth below, IDEM rejects the Petitioners' interpretations of IC 13-30-1-5 and -6. The Petitioners' substantive concerns regarding $PM_{2.5}$ and CO_2, raised in support of their styled Petition to Intervene, are addressed in the following Comment and Response.

The only reported case of which IDEM is aware that addresses whether IC 13-30-1-5 provides for a right to intervene in State agency permitting proceedings is *Centre Properties v. DNR, In re Hoosier Environmental Council*, 10 CADDNAR 49, March 24, 2005, *appeal dismissed* Cause No. 49F12-0505-MI-016786 (Marion Super. Ct., Oct. 27, 2005). The Contested Administrative Decisions of the Department of Natural Resources are electronically *available at*: http://www.in.gov/nrc/2369.htm. In *Centre Properties* the Indiana Natural Resources Commission ("NRC"), interpreting IC 13-30-1-5 in the context of IC 13-30-1 as a whole, determined that the intervention right provided under IC 13-30-1-5 applies, if at all, only to administrative, licensing, or other proceedings initiated by an administrative agency in response to an IC 13-30-1-2 notice of intent to bring a citizen suit under IC 13-30-1-1, where that proceeding otherwise would have the effect of barring the intended citizen suit. IDEM agrees that this is the proper reading of the intervention provision (IC 13-30-1-5) and the statute as a whole.

Specifically, in *Centre Properties*, the NRC rejected the argument that IC 13-30-1-5 allowed the Hoosier Environmental Council to intervene in a proceeding regarding the issuance of a certificate of approval for construction in a floodway. The NRC dismissed the petitioner's argument that 13-30-1-5 should be read as "a stand alone provision authorizing nearly any individual or entity the unfettered ability to intervene in nearly any administrative proceeding involving the mere possibility of significant environmental destruction, impairment, or pollution." *Centre Properties* at 52. The NRC held that as a whole "[a] thorough reading of IC 13-30-1 reveals no ambiguity in its content or meaning[]" and describes a "complete mechanism for specified individuals and entities to aid in the protection of Indiana's environment in the name of the State." *Centre Properties* at 52. Based on this interpretation, the Petitioners in this matter, like the petitioners in *Centre Properties,* cannot apply IC 13-30-1-5 in isolation from the rest of the statutory chapter in which it is found.

In *Centre Properties*, the NRC summarized the "complete mechanism" set forth under IC 13-30-1 as follows:

> 32. Utilizing all sections of IC 13-30-1, specified individuals and entities are authorized to bring actions for declaratory and equitable relief "for the protection of the environment of Indiana from significant pollution, impairment, or destruction." IC 13-30-1-1.
>
> 33. As a condition precedent to the bringing an action under IC 13-30-1-1, a claimant is first obligated to provide notice to the agencies specified in IC 13-30-1-2.
>
> 34. Thereafter, pursuant to IC 13-30-1-3 the claimant is prohibited from maintaining that action in the name of the State unless none of the agencies so notified:
>
> within ninety (90) days:
> - commence an administrative proceeding (IC 13-30-1-3((a)(1)(A);or
> - commence a civil action (IC 13-30-1-3((a)(1)(A); or
> - take steps in furtherance of a criminal action (IC 13-30-1-3((a)(1)(B); and
> - after the commencement of such an action, fail to diligently pursue the same (IC 13-30-1-3(a)(2).
>
> 35. Despite the inability of an individual to maintain an action following an agency's initiation of an administrative proceeding, civil action, or pursuance of a criminal action and diligence in the furtherance of the action taken, a claimant is authorized by IC 13-30-1-5 to intervene in the administrative, licensing, or other proceeding or in the action for judicial review resulting from the agency's action.
>
> *Centre Properties* at 52.

IDEM concurs. As explained by the NRC, IC 13-30-1-5 can only be relied upon as a basis for intervention in IDEM proceedings where the proposed intervention is used in conjunction with IC 13-30-1 as a whole. Accordingly, the right of intervention provided under IC 13-30-1-5 is available only where notice has been given under IC 13-30-1-2 an administrative proceeding has been initiated by an agency under IC 13-30-1-3 in response to the notice, and all other requirements of IC 13-30-1 are met.

The rationale behind this intervention provision is clear. It preserves the opportunity of a person or entity whose intended action under IC 13-30-1-1 has been barred by an agency's administrative proceeding initiated under IC 13-30-1-3 in response to the citizen suit notice to nonetheless pursue claims of significant impairment, pollution or destruction of the environment by intervening under certain circumstances. It was not necessary for the legislature to provide such an intervention right if the agency initiates a civil action under IC 13-30-1-3 in response to a citizen suit notice because the Indiana Rules of Trial Procedure already provide for intervention. Thus, the possibility of intervention provided in IC 13-30-1-5 is inextricably bound up in the notice and agency response provisions of Sections 2 and 3 of IC 13-30-1. There is no right of intervention afforded by IC 13-30-1-5 apart from proceedings arising under or in conjunction with IC 13-30-1-3.

Using the *Centre* Properties rationale, IDEM concludes that IC 13-30-1-6 is subject to the same constraints on applicability as is IC 13-30-1-5. The review requirements set forth under IC 13-30-1-6 are, like the intervention right provided under IC 13-30-1-5, applicable only in the broad context of IC 13-30-1 as a whole. This is supported by the language of IC 13-30-1-6 which expressly limits its applicability to "<u>the</u> administrative, licensing, or other procedure" (emphasis added); such language can only be taken as a reference to the "administrative, licensing or other proceeding" in which intervention under IC 13-30-1-5 has been obtained.

With regard to this permit proceeding, notice under IC 13-30-1-2 has not been submitted to the IDEM by the Petitioners or any other entity. Therefore, no action may properly be commenced by Petitioners or any other entity pursuant to IC 13-30-1-1. In addition, the permit proceeding is not a proceeding initiated by IDEM in response to a notice of intent to file a citizen suit under IC 13-30-1-1. Because the necessary statutory procedural and substantive steps have not been performed in order for IC 13-30-1-5 and -6 to apply, Petitioners do not have a right to intervene in this permit process pursuant to IC 13-30-1-5, and IDEM is not required to apply the review requirements of IC 13-30-1-6 to this permit process.

IDEM notes that, while IC 13-30-1 *et seq*. does not apply to the current permitting action, IC 13-15-5 allows the Petitioners -- and the public in general -- to comment on proposed permits for IDEM's consideration in issuing or denying a permit. In addition, 326 IAC 2-7-17(c) sets forth the requirements for public notice and comment procedures regarding Title V permits, obligates IDEM to respond to such comments, and lists criteria that, if met, may form the basis for the commissioner of IDEM to deny a requested permitting action. Finally, IC 13-15-6 (along with IC 4-21.5-3 *et seq*.) provides the opportunity to appeal IDEM's issuance of a permit and outlines the requirements for doing so. Therefore, even without resort to the intervention process provided under IC 13-30-1-5, Petitioners have the opportunity to participate in the permitting process and pose comments for IDEM's consideration.

Comment 12: The proposed permits should not be approved because they will result in $PM_{2.5}$ emissions that are reasonably likely to impair, pollute, or destroy the environment, and because feasible and prudent alternatives exist.

$PM_{2.5}$ is a known environmental pollutant, and the U.S. EPA has concluded that fine particle concentrations can be used as a general surrogate for visibility impairment. *National Ambient Air Quality Standards for Particulate Matter*, Proposed Rule, 71 Fed. Reg. 2620, 2676 (Jan 17, 2006). Additionally, fine particulates "can damage vegetation, disrupt ecosystems, corrode metals, and erode paints and other building materials." *Am. Farm Bureau Fed. v. EPA*, 559 F.3d 512, 516 (D.C.Cir. 2009) (vacating $PM_{2.5}$ NAAQS as insufficient to protect health and environment).

More seriously, fine particulates present a substantial threat to human health. In a 1996 report on the need to revise the PM ambient air quality standards, EPA staff found that the epidemiological data more strongly support fine particles as the surrogate for the fraction of PM most clearly associated with health effects at levels below the standards in place at that time. U.S. EPA Office of Air Quality Planning and Standards, "Review of the National Ambient Air Quality Standards for Particulate Matter: Policy Assessment of Scientific and Technical Information." Staff Paper (July 1996) ("$PM_{2.5}$ Staff Paper"), V-77. Children are especially susceptible to harm from $PM_{2.5}$. Older adults also are particularly susceptible to $PM_{2.5}$ because of their weaker lungs and hearts.

Numerous studies have linked fine particle pollution specifically from coal plants with the negative health effects described above. *See* Exhibit J, J Levy et al, Using CALPUFF to Evaluate the impacts of power plant emissions in Illinois: model sensitivity and implications, Atmospheric Environment 36 (2002) 1063–1075; J Levy and J Spengler, Modeling the Benefits of Power Plant Emissions Controls, J. Air & Waste Manage. Assoc. 52:5-18 (2002).

The costs of $PM_{2.5}$ pollution are staggering. The serious health impacts and accompanying costs from $PM_{2.5}$ pollution will burden not only individuals, but also the state through expenditure of public and employer health care dollars, lost productivity, and strains on the education system from missed school days. As a result, the economic benefit from control of $PM_{2.5}$ are significant. In all, Indiana will benefit greatly from protecting its citizens through stringent control of fine particles from the Purdue plant and other coal plants and major new sources of air pollution.

The Purdue plant's coal boilers, existing and proposed, are a source of $PM_{2.5}$. IDEM did not perform any analysis of before-and-after $PM_{2.5}$ concentrations after Boiler 6 is constructed, and improperly used PM_{10} and a surrogate for $PM_{2.5}$ in the PSD applicability analysis. *See* Petitioners' Comments on the Proposed Title V Revision and Renewal, filed herewith and incorporated by reference, and 75 Fed. Reg. 6827 (Feb. 11, 2010) (noticed of rulemaking to end surrogacy policy and making clear current status of surrogacy policy requires showing strong correlations between PM_{10} and $PM_{2.5}$ before surrogacy can be applied).

For all of the above reasons, the proposed permit by IDEM should not proceed because it will or, at a minimum, is reasonably likely to, impair, pollute, or destroy the environment of Indiana due to the dangerous effects of $PM_{2.5}$ emissions on the environment and human health, and because feasible and prudent alternatives are available that will improve the public health, safety, and welfare.

Response:

As explained above, IDEM believes that the Commenters have misconstrued IC 13-30-1 *et seq.* and improperly seek its application to this permitting action. For this reason, IDEM will not comment on the need for exploration of "feasible and prudent" alternatives required under IC 13-30-1-6 because this statutory citation is inapplicable to the instant proceeding at this time. Likewise, while IDEM does not seek to contradict the authorities cited by the Commenters in support of their position regarding the existing $PM_{2.5}$ limits in the proposed permit, IDEM has imposed the applicable $PM_{2.5}$ limits on the source in accordance with the existing federal and state law governing these emissions.

That said, the comments and the history of the $PM_{2.5}$ rules do not directly bear on this permit decision, because Purdue's project does not have any net emissions increase for $PM_{2.5}$ and because this permit decision does not rely on PM_{10} as a surrogate. IDEM provides the following history solely for a general understanding of the $PM_{2.5}$ regulatory program.

On April 25, 2007, the U.S. EPA finalized its $PM_{2.5}$ implementation rule ("April 2007 Rule"). The April 2007 Rule established:

(i) schedules for performance by the states of attainment demonstrations to define nonattainment areas for $PM_{2.5}$,

(ii) requirements for developing SIP provisions to bring nonattainment areas into attainment, and

(iii) guidance for states' development of RACT and RACM requirements for facilitating attainment with the National Ambient Air Quality Standards (NAAQS).

However, the U.S. EPA decided not to include the New Source Review (NSR) program in the implementation rule and stated that, "because there was an interim surrogate NSR program in place" (which allowed states to use PM_{10} as a surrogate between the effective date of the $PM_{2.5}$ NAAQS designation and until the U.S. EPA promulgates major NSR regulations for the implementation of $PM_{2.5}$), EPA would finalize the NSR part of the rule in a separate rulemaking at a later date. On September 21, 2007, the U.S. EPA proposed a separate rulemaking that proposed $PM_{2.5}$ increments, Significant Impact Levels, and a Significant Monitoring Concentration to facilitate implementation of the $PM_{2.5}$ PSD program. The preamble to that rule cites the interim surrogate policy for use of PM_{10} in lieu of $PM_{2.5}$ as part of a transition program for $PM_{2.5}$ implementation in NSR.

U.S. EPA published a final rule establishing certain requirements needed for implementation of the PSD program for $PM_{2.5}$ on May 16, 2008, at 73 Federal Register (FR) 28321 ("May 2008 Rule"), including the identification of precursors to $PM_{2.5}$ and establishment of significant emission rates for $PM_{2.5}$ and its precursors. In the preamble to the May 2008 Rule (at 73 FR 28341), U.S. EPA announced that states like Indiana, which have SIP-approved PSD programs that require amendments to incorporate the elements of the May 2008 Rule have three years from the date of the May 2008 Rule to submit revised PSD programs for $PM_{2.5}$ to U.S. EPA for approval. EPA further provided in the May 2008 Rule preamble that, during this SIP development period, a state that is unable to implement a PSD program for $PM_{2.5}$ based on the May 2008 Rule, may continue to implement a PM_{10} program as a surrogate to meet PSD program requirements for $PM_{2.5}$ pursuant to the 1997 guidance for such surrogate programs. Since Indiana has not yet completed SIP revisions to its PSD program rules to implement the $PM_{2.5}$ requirements, the PM_{10} surrogate program remains applicable for PSD projects under review in this state. In the May 2008 Rule, U.S. EPA makes the following statement regarding the 3-year transition program for SIP-approved states:

> We have dropped the requirement [from proposed option 1 of the rule proposal] for demonstrating compliance with the $PM_{2.5}$ NAAQS in order to maintain consistency in the application of the existing surrogate policy across the PSD program during the interim period. Since in the final rule we are otherwise allowing SIP-approved states to continue with the PM_{10} surrogate policy to meet the PSD requirements for $PM_{2.5}$, partially implementing the PM_{10} surrogate policy in this manner would be confusing and difficult to administer. Thus, to ensure consistent administration during the transition period, we have elected to maintain our existing PM_{10} surrogate policy which only recommends as an interim measure that sources and reviewing authorities conduct the modeling necessary to show that PM_{10} emissions will not cause a violation of the PM_{10} NAAQS as a surrogate for demonstrating compliance with the $PM_{2.5}$ NAAQS.
>
> 73 FR 28321, 28341.

On February 11, 2010, U.S. EPA published a proposed rule to, among other things, end the PM_{10} surrogacy policy established by previous guidance and rules, including the May 2008 Rule (75 FR 6827). While U.S. EPA clearly expresses its intent to end the use of the PM_{10} surrogacy policy in the future, it acknowledges that the surrogate policy "is in effect" (75 FR at 6833) and states that "EPA is proposing to end the PM_{10} Surrogate Policy before the end of the three-year transition period for revising SIPs . . . ." Thus, while EPA undoubtedly has concerns about continuing the surrogate policy, the policy remains in effect.

Comment 13: Carbon dioxide is harmful to Indiana's environment and public health, and reasonable and prudent alternatives to the Purdue plant's carbon dioxide emissions exist.

The plant is also a major source of greenhouse gas ("GHG"). These emissions will, or are reasonably likely to, have the effect of impairing, polluting, or destroying the environment of Indiana, and mandate that the permit cannot be issued as proposed since reasonably prudent and feasible alternatives exist.

Atmospheric CO_2 concentrations are reaching dangerous and unprecedented levels. Exhibit N, Hansen Testimony at 3. Evidence shows emissions rates continue to rise. Rising atmospheric CO_2 concentrations is a leading cause of global warming. Exhibit O, IPCC Working Group I Report at ES-3-4, Figure SPM.2; Exhibit R, IEA World Energy Outlook, 2007, at Executive Summary 11; *See also* Exhibit N, Hansen Testimony at 3. In light of these findings, climate scientists urge immediate action to curtail CO_2 and other GHG emissions

The need for Indiana to act to avert the substantial amount of new and existing GHG pollution from the Purdue Plant is clear because of the serious and imminent threat posed by climate change. Numerous scientific studies directly link climate change with significant public health, environmental, economic, and ecological impacts. *See, e.g.,* Exhibit V, IPCC Working Group II Report, Climate Change 2007: Impacts, Adaptation, and Vulnerability ("IPCC Working Group II Report"); *see also* Exhibit W, Matthias Ruth, *et al*., The US Economic Impacts of Climate Change and the Costs of Inaction, Center for Integrative Environmental Research (Oct. 2007).

Public health is closely linked to climate and, therefore, it is not surprising that global climate change is expected to have numerous significant impacts on human health.

While global warming is a worldwide phenomenon, the major climate changes associated with global warming – increases in average temperature, and increased incidences of extreme heat, droughts, and heavy rain events – will be experienced throughout Indiana. Given these significant impacts, Indiana clearly has a compelling interest in taking the necessary steps to curb climate change.

The Purdue plant's approximately 500,000 TPY of CO_2 will worsen Indiana's CO_2 emissions.

Options exist to reduce the emission of GHGs from the Purdue Plant as currently proposed. Thus, this Petition to Intervene should be granted, and IDEM should be required to consider the documented negative impacts the Purdue plant, as proposed, on the environment and people of Indiana due to its dangerous emissions of CO_2. Because feasible and prudent alternatives to the plant as proposed, this permit should not be granted.

What are the projected CO_2 emissions from the proposed boilers on an annual basis assuming they are operated at full capacity?

What is IDEM's position on climate change? Is this information posted on the IDEM website.

Response:

As explained above, IDEM believes that the Commenters have misconstrued IC 13-30-1 *et seq.* and improperly seek its application to this permitting action. For this reason, IDEM will not comment on the need for exploration of "feasible and prudent" alternatives required under IC 13-30-1-6 because this statutory citation is inapplicable to the instant proceeding at this time. Moreover, IDEM does not regulate CO_2 emissions and currently is not required to regulate CO_2 emissions. While there is concern at EPA about greenhouse gas (GHG) emissions and their impact on climate, the currently in-effect rules do not provide for the state to require CO_2 limitations nor do they allow projects to be delayed in anticipation of regulations that will take effect later.

EPA's GHG Reporting rule requires sources to report CO_2 emissions. This rule does not require states to add the CO_2 reporting requirements directly into source's air permits. The rule's requirements apply to sources independent of their specified permitting obligations regardless of whether the rule's requirements are incorporated into a permit. There is nothing in this rule or the Clean Air Act that requires the state to include the Reporting Rule specifically in this air permit.

The U.S. EPA recently published the final GHG Tailoring rule in the Federal Register. This new rule will go into effect for new sources on January 2, 2011, and will go into effect for existing sources on July 1, 2011. On and after the effective dates for this rule, sources will be subject to this rule when submitting New Source Construction and Part 70 Operating Permit applications.

IDEM's position on climate change has no effect on this permit because, as noted, it is not required to regulate any greenhouse gases at this time. (IDEM's website does not contain pages dedicated to GHGs or CO_2.) IDEM will comply with federal requirements regarding GHGs.

Comment 14: Biomass in Boiler 6

The stated intention of using boiler 6 for woody biomass in Purdue University announcements is not reflected in this permit. It should be clear to the public that this is for a COAL-fuel source and that the permit in no way provides approval for any other fuel source. This clearly undermines Purdue's claim that this is a move to be more sustainable in its energy production.

Response:

The permit does not allow for anything other than coal to be used as fuel for Boiler 6. In order to use another fuel, Purdue will need to submit an application to modify the permit and IDEM will review and issue source modification and permit modification determinations as required.

Comment 15: HAP Emissions

The emission of hazardous materials is unacceptable given the range of alternatives available to Purdue. Those alternatives include another natural gas boiler, end use energy efficiency programs, geothermal projects and renewable energy systems such as wind and solar to reduce the reliance upon coal. We urge Purdue to respond to the public and reconsider this decision to expand its coal footprint and embark upon a responsible energy future that does not include further emissions of hazardous materials and greenhouse gases.

Response:

The permit contains all applicable requirements regarding emissions of "hazardous air pollutants". U.S. EPA recently clarified in 40 CFR 63.7495 (proposed Boiler MACT) that "If you have an existing boiler or process heater, you must comply with this subpart no later than [3 YEARS AFTER DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER]." Therefore, Purdue will have 3 years from the date the revised Boiler MACT rules are promulgated to incorporate the requirements and compliance options into their Part 70 Operating Permit. Further, the permit already contains conditions (for example, D.2.3, D.2.7(b), D.2.9, D.2.19(g)) to limit HAP emissions from the modification below the major source thresholds. Finally, Clean Air Act Section 112(j) does apply to the source, and Boilers 1 and 6 will be addressed by that MACT standard if Boiler MACT does not become effective for any reason.

There are no changes to the permit as a result of this comment.

Other Changes

Upon further review, the OAQ has decided to make the following revisions to the permit:

Change No. 1: IDEM, OAQ has decided to remove all references to the source mailing address. IDEM, OAQ will continue to maintain records of the mailing address. The changes to Condition A.1 and the source information on the reporting forms is as follows:

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

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

Source Address:	401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, Indiana 47907-2024
~~Mailing Address:~~	~~401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, Indiana 47907-2024~~
General Source Phone Number:	(765) 496-6405
SIC Code:	8221
County Location:	Tippecanoe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major, under PSD Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

Certification, Emergency Occurrence Report, Quarterly Reports, and Quarterly Deviation and Compliance Monitoring Report

Source Name:	Purdue University
Source Address:	401 S. Grant Street, Freehafer Hall of Administrative Services,West Lafayette, Indiana, 47907-2024
~~Mailing Address:~~	~~401 S. Grant Street, Freehafer Hall of Administrative Services,West Lafayette, Indiana, 47907-2024~~
Part 70 Permit Renewal No.:	T 157-27313-00012

Change No. 2: IDEM has revised Condition B.9, Certification, as follows:

B.9 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(i) it contains a certification by a "responsible official", as defined by 326 IAC 2-7-1 (34), and

(ii) ~~the certification is~~ **the certification states that** based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

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

Change No. 3: IDEM has clarified Condition C.2, Particulate Emission Limitations for Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour, as follows:

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

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any **manufacturing** 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 (lb/hr) and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour (lb/hr).

Change No. 4: IDEM has clarified Condition C.5, Fugitive Dust Emissions, as follows:

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.**

Change No. 5: IDEM has clarified the instrument monitoring requirements in Conditions D.1.15(b), D.2.15(c), D.5.7(b), D.6.8(d), and D.7.7(c), as follows:

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, and shall be calibrated **or replaced** in accordance with the manufacturer's specifications.

Change No. 6: IDEM has clarified paragraphs (c) and (d) of Condition D.1.18, Record Keeping Requirements, as follows:

D.1.18 Record Keeping Requirements

...

(c) To document compliance with Condition D.1.14, the Permittee shall maintain daily records of the primary and secondary voltages and the currents of the transformer-rectifier (T-R) sets for the ESP ~~used to control particulate emissions from~~ **for** Boiler 1 whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(d) To document compliance with Condition D.1.15, the Permittee shall maintain daily records of the pressure drop across the baghouse ~~used to control particulate emissions from~~ **for** Boiler 2 whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

...

Change No. 7: IDEM has removed the following statement from the reporting forms:

"Attach a signed certification that meets the requirements of 326 IAC 2-7-6(1) to complete this report."

IDEM Contact

Questions regarding this proposed permit can be directed to:

Kimberly Cottrell
Indiana Department Environmental Management
Office of Air Quality
100 North Senate Avenue
MC 61-53, Room 1003
Indianapolis, Indiana 46204-2251
Toll free (within Indiana): 1-800-451-6027 extension 3-0870
Or dial directly: (317) 233-0870
kcottrel@idem.in.gov

Please refer to Significant Source Modification No. 157-27361-00012 and Part 70 Operating Permit Renewal No.: 157-27313-00012 in all correspondence.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (TSD)
Addendum to TSD Appendix A - Emission Calculations
Significant Source Modification (SSM) of a Part 70 Source
Significant Permit Modification (SPM) of Part 70 Operating Permit

Source Description and Location

Company Name: Purdue University
Address City IN Zip: 401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, Indiana 47907-2024
County: Tippecanoe
SIC: 8221
Significant Source Modification (SSM) No.: 157-27361-00012
Part 70 Operating Permit Renewal No.: T 157-27313-00012
Permit Reviewer: Kimberly Cottrell
Date: July 1, 2010

Limited Potential to Emit of Boiler 6 & Boiler 7

Process	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_X (tpy)	VOC (tpy)	CO (tpy)	Lead (tpy)	Beryllium (tpy)	Mercury (tpy)	H_2SO_4 (tpy)	Fluorides (tpy)	Hexane (tpy)	HCl (tpy)	Total HAP (tpy)
Boiler 7 (NG)	2.37	9.46	9.46	0.75	62.26	6.85	257.13	6.23E-04	1.49E-05	3.24E-04			2.24		2.35
Boiler 6 (Coal Circulating Fluidized Bed)	36.30	169.40	169.40	1,379.40	242.00	16.64		0.08	0.02569	0.006	6.99	0.34	0.0051	9.99	17.39
Limestone Handling**	6.00	6.00	2.00												
Coal Handling	8.00	8.00	1.50												
Ash Handling	6.00	3.00	3.00												
Total	**58.67**	**195.86**	**185.36**	**1,380.15**	**304.26**	**23.49**	**257.13**	**0.08**	**0.02571**	**0.007**	**6.99**	**0.34**	**2.25**	**9.99**	**19.74**
PSD Major Modification Threshold (tpy)	**25**	**15**	**10**	**40**	**40**	**40**	**100**	**0.6**	**0.00040**	**0.1**	**7.0**	**3.0**	**NA**	**NA**	**NA**
Triggers PSD Applicability Analysis? (Yes or No)	**YES**	**YES**	**YES**	**YES**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**NO**	**NO**			

** Assumes PM_{10} emissions are equal to PM emissions.

Emissions Netting Analysis

Emissions	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_X (tpy)		CO (tpy)		Beryllium (tpy)
Boiler 6 & Boiler 7 Activities (Limited PTE)	58.67	195.86	185.36	1,380.15	304.26		257.13		0.02571
Contemporaneous Increase (Poultry Incinerator)	0.13	0.12	0.12	1.22	0.80		0.09		
Contemporaneous Increase (Emergency Generators)	1.10	1.08	1.08	2.43	24.49		5.64		
Contemporaneous Increase (NG Boilers Replaced in Past 5 Years)	0.16	0.16	0.16	0.01	0.87		0.73		
Contemporaneous Decrease (Boiler 1 Removal)	-421.17	-301.55	-187.66	-1,390.19	-353.44		-171.39		-0.03848
Net Emissions Increase	**-361.12**	**-104.33**	**-0.94**	**-6.38**	**-23.02**		**92.20**		**-0.01277**
PSD Major Modification Threshold (tpy)	**25**	**15**	**10**	**40**	**40**		**100**		**0.00040**
Triggers PSD after netting? (Yes or No)	**NO**	**NO**	**NO**	**NO**	**NO**		**NO**		**NO**

Boiler 7 Potential to Emit Calculations

Heat Input Capacity =	~~259~~	~~MMBtu/hr~~	**290 MMBtu/hr**
Steam Output =	200,000	lb/hr boiler	
Heat Input =	290,000,000	~~mmBtu/hr~~	**mmBtu/hr**
Fuel Consumption =	Natural Gas		
Natural Gas - Heat content =	1020	Btu/cu ft	
Maximum Fuel Feed Rate =	284,314	cf/hr	
	2,491	MMCF/yr	**<= New Limited Fuel Feed Rate**
~~**Limited Fuel Feed Rate =**~~	~~**1,850**~~	~~**MMCF/yr**~~	

Pollutant	**Maximum rate** MMCF/hr	**Emission Factor** lb/MMCF	**Maximum Uncontrolled Emission Rate** lb/hr	**Maximum Uncontrolled Emission Rate** lb/MMBtu	**Maximum Uncontrolled Emissions** tpy	**Maximum Uncontrolled Emission Rate lb/MMBtu**	**Limited Emissions*** **tpy**	~~**Limited Emissions***~~ ~~tpy~~
PM (filterable)	0.284	1.9	0.5402	~~0.0021~~	2.37	**0.0019**	**2.37**	~~**1.76**~~
PM_{10} (filterable + condensable)	0.284	7.6	2.1608	~~0.0083~~	9.46	**0.0075**	**9.46**	~~**7.03**~~
$PM_{2.5}$ (filterable + condensable)	0.284	7.6	2.1608	~~0.0083~~	9.46	**0.0075**	**9.46**	~~**7.03**~~
SO_2	0.284	0.6	0.1706	~~0.0007~~	0.75	**0.0006**	**0.75**	~~**0.56**~~
NOx**	0.284	50	14.2157	~~0.0549~~	62.26	**0.0490**	**62.26**	~~**46.25**~~
VOC	0.284	5.5	1.5637	~~0.0060~~	6.85	**0.0054**	**6.85**	~~**5.09**~~
~~CO~~	~~0.284~~	~~84~~	~~23.8824~~	~~0.0922~~	~~104.60~~			~~**77.70**~~
CO* **	**0.284**	**34.5**	**9.8088**		**42.96**	**0.0338**	**42.96**	
Hazardous Air Pollutants								
Lead	0.284	5.00E-04	1.42E-04	~~5.49E-07~~	6.23E-04	**4.90E-07**	**6.23E-04**	~~**4.63E-04**~~
Beryllium	0.284	1.20E-05	3.41E-06	~~1.32E-08~~	1.49E-05	**1.18E-08**	**1.49E-05**	~~**1.11E-05**~~
Mercury	0.284	2.60E-04	7.39E-05	~~2.85E-07~~	3.24E-04	**2.55E-07**	**3.24E-04**	~~**2.41E-04**~~
Arsenic	0.284	2.00E-04	5.69E-05	~~2.20E-07~~	2.49E-04	**1.96E-07**	**2.49E-04**	~~1.85E-04~~
Chromium	0.284	1.40E-03	3.98E-04	~~1.54E-06~~	1.74E-03	**1.37E-06**	**1.74E-03**	~~1.30E-03~~
Cobalt	0.284	8.40E-05	2.39E-05	~~9.22E-08~~	1.05E-04	**8.24E-08**	**1.05E-04**	~~7.77E-05~~
Manganese	0.284	3.80E-04	1.08E-04	~~4.17E-07~~	4.73E-04	**3.73E-07**	**4.73E-04**	~~3.52E-04~~
Nickel	0.284	2.10E-03	5.97E-04	~~2.31E-06~~	2.62E-03	**2.06E-06**	**2.62E-03**	~~1.94E-03~~
Selenium	0.284	2.40E-05	6.82E-06	~~2.63E-08~~	2.99E-05	**2.35E-08**	**2.99E-05**	~~2.22E-05~~
2-Methylnaphthalene	0.284	2.40E-05	6.82E-06	~~2.63E-08~~	2.99E-05	**2.35E-08**	**2.99E-05**	~~2.22E-05~~
3-Methylchloroanthrene	0.284	1.80E-06	5.12E-07	~~1.98E-09~~	2.24E-06	**1.76E-09**	**2.24E-06**	~~1.67E-06~~
7,12-Dimethylbenz(a)anthracene	0.284	1.60E-05	4.55E-06	~~1.76E-08~~	1.99E-05	**1.57E-08**	**1.99E-05**	~~1.48E-05~~
Acenapthene	0.284	1.60E-06	4.55E-07	~~1.76E-09~~	1.99E-06	**1.57E-09**	**1.99E-06**	~~1.48E-06~~
Acenaphthylene	0.284	1.80E-06	5.12E-07	~~1.98E-09~~	2.24E-06	**1.76E-09**	**2.24E-06**	~~1.67E-06~~
Benzene	0.284	2.10E-03	5.97E-04	~~2.31E-06~~	2.62E-03	**2.06E-06**	**2.62E-03**	~~1.94E-03~~
Benzo(a)pyrene	0.284	1.20E-06	3.41E-07	~~1.32E-09~~	1.49E-06	**1.18E-09**	**1.49E-06**	~~1.11E-06~~
Benzo(b)fluoranthene	0.284	1.80E-06	5.12E-07	~~1.98E-09~~	2.24E-06	**1.76E-09**	**2.24E-06**	~~1.67E-06~~
Benzo(k)fluoranthene	0.284	1.80E-06	5.12E-07	~~1.98E-09~~	2.24E-06	**1.76E-09**	**2.24E-06**	~~1.67E-06~~
Chrysene	0.284	1.80E-06	5.12E-07	~~1.98E-09~~	2.24E-06	**1.76E-09**	**2.24E-06**	~~1.67E-06~~
Dibenzo(a,h)anthracene	0.284	1.20E-06	3.41E-07	~~1.32E-09~~	1.49E-06	**1.18E-09**	**1.49E-06**	~~1.11E-06~~
Dichlorobenzene	0.284	1.20E-03	3.41E-04	~~1.32E-06~~	1.49E-03	**1.18E-06**	**1.49E-03**	~~1.11E-03~~
Fluoranthene	0.284	3.00E-06	8.53E-07	~~3.29E-09~~	3.74E-06	**2.94E-09**	**3.74E-06**	~~2.78E-06~~
Fluorene	0.284	2.80E-06	7.96E-07	~~3.07E-09~~	3.49E-06	**2.75E-09**	**3.49E-06**	~~2.59E-06~~
Formaldehyde	0.284	0.08	0.02	~~8.23E-05~~	0.09	**7.35E-05**	**9.34E-02**	~~6.94E-02~~
Hexane	0.284	1.80	0.51	~~1.98E-03~~	2.24	**1.76E-03**	**2.24**	~~**1.67**~~
Indeno(1,2,3-cd)pyrene	0.284	1.80E-06	5.12E-07	~~1.98E-09~~	2.24E-06	**1.76E-09**	**2.24E-06**	~~1.67E-06~~
Naphthalene	0.284	6.10E-04	1.73E-04	~~6.70E-07~~	7.60E-04	**5.98E-07**	**7.60E-04**	~~5.64E-04~~
Phenanathrene	0.284	1.70E-05	4.83E-06	~~1.87E-08~~	2.12E-05	**1.67E-08**	**2.12E-05**	~~1.57E-05~~
Pyrene	0.284	5.00E-06	1.42E-06	~~5.49E-09~~	6.23E-06	**4.90E-09**	**6.23E-06**	~~4.63E-06~~
Toluene	0.284	3.40E-03	9.67E-04	~~3.73E-06~~	4.23E-03	**3.33E-06**	**4.23E-03**	~~3.15E-03~~
Total HAP			0.54		2.35		**2.35**	~~**1.75**~~

~~* Based on a maximum of 1850 MMCF per year~~
** Low NOx Burners
AP-42 Emission Factors, Ch. 1.4, July 1998
*** Site Specific Emission Factor for CO is 34.5 lb/MMCF

Revised PSD Baseline Emissions for CO for Existing Boiler 1
Due to Lowering of CO Emission Factor

CO (tons/month)					
Year	**Month**	***Boiler 1 Heating***	***Unit 1 Avg Annual Total (tpy, from 2yr Total)***	**REVISED Boiler 1 Heating**	**REVISED Boiler 1 Avg Annual Total (tpy, from 2yr Total)**
2004	February	*25.36*		14.55	
2004	March	*22.38*		12.84	
2004	April	*31.30*		17.96	
2004	May	*26.88*		15.42	
2004	June	*24.93*		14.31	
2004	July	*25.49*		14.63	
2004	August	*28.27*		16.22	
2004	September	*27.71*		15.90	
2004	October	*22.46*		12.89	
2004	November	*10.27*		5.89	
2004	December	*26.94*		15.46	
2005	January	*29.74*		17.07	
2005	February	*24.68*		14.16	
2005	March	*30.08*		17.26	
2005	April	*25.77*		14.79	
2005	May	*27.56*		15.82	
2005	June	*27.88*		16.00	
2005	July	*27.26*		15.64	
2005	August	*28.52*		16.37	
2005	September	*19.14*		10.99	
2005	October	*13.53*		7.76	
2005	November	*18.27*		10.49	
2005	December	*27.31*		15.67	
2006	January	*25.63*	*298.68*	14.71	171.39

The Average Annual Total (tpy) is calculated as the sum of the monthly totals for 24 months, divided by 2.

Baseline Period = Feb. 2004 - Jan. 2006

Original CO Factor = 0.417 lb/MMBtu
9.711 lb/ton coal

Original Baseline Emissions = 298.68 ton/yr

New CO Factor = 5 lb/ton coal
0.239 lb/MMBtu

Revised Baseline Emissions = 171.39 ton/yr

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source Modification and Part 70 Operating Permit Renewal

Source Description and Location

Source Name:	Purdue University - West Lafayette
Source Location:	401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, IN 47907-2024
County:	Tippecanoe
SIC Code:	8221
Significant Source Modification No.:	SSM 157-27361-00012
Operation Permit Renewal No.:	T 157-27313-00012
Permit Reviewer:	Kimberly Cottrell

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Purdue University relating to the operation of stationary boilers and other support facilities for the educational services operation located at Purdue University.

Source Definition

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.

Existing Approvals

On December 30, 2008, Purdue University submitted an application to the OAQ requesting to renew its operating permit. Purdue University was issued Part 70 Operating Permit No. T 157-7340-00012 on June 30, 2004.

Since the issuance of the Part 70 Operating Permit, the source has constructed or has been operating under the following approvals:

Table 1: Issued Approvals

Permit Type	Permit Number	Issuance Date
Significant Permit Modification	157-19509-00012	April 5, 2005
Significant Permit Modification	157-22153-00012	July 10, 2006
Significant Permit Modification	157-23202-00012	January 17, 2007
Administrative Amendment	157-25072-00012	August 20, 2007
Administrative Amendment	157-25886-00012	January 31, 2008

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.

County Attainment Status

The source is located in Tippecanoe County.

Table 2: County Attainment Status

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
$PM_{2.5}$	Unclassifiable or attainment effective April 5, 2005.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

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

(b) $PM_{2.5}$
Tippecanoe County has been classified as attainment for $PM_{2.5}$. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM_{10} emissions as a surrogate for $PM_{2.5}$ emissions until 326 IAC 2-2 is revised.

(c) Tippecanoe County has been classified as attainment or unclassifiable for CO,PM_{10}, NO_2, SO_2, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(d) Since this source is classified as a fossil fuel fired steam electric plant rated at more than 250 MMBtu/hr heat input, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(e) Fugitive Emissions
Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Table 3: Source Status PTE	
Pollutant	**Emissions** (ton/yr)
CO	**>100**
NO_X	**>100**
PM	**>100**
PM_{10}	**>100**
SO_2	**>100**
VOC	<100
HF	**>10**
HCl	**>10**
Arsenic	<10
Beryllium	<10
Cadmium	<10
Chromium	<10
Formaldehyde	<10
Glycol Ethers	<10
Lead	<10
Manganese	<10
MEK	<10
Methanol	<10
Nickel	<10
Toluene	<10
TOTAL HAP	**>25**

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(b) This existing source is not a major stationary source under Emission Offset (326 IAC 2-3) because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.

(c) This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

(d) These emissions are based upon Part 70 Operating Permit No. T 157-7340-00012, issued on June 30, 2004.

Actual Emissions

Past actual emissions for Boiler 1 are included in the emission calculations included as Appendix A to this Technical Support Document.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Purdue University - West Lafayette on January 13, 2009, relating to construct two new boilers and support facilities.

The following is a list of the proposed emission units and pollution control devices:

(a) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 6 is considered an affected source.

(b) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 7 is considered an affected source.

(c) One (1) limestone handling system for Boiler 6, permitted in 2010, with a nominal capacity of 12.5 tons/hr, including one (1) limestone pneumatic conveyor system, identified as LC6, from the truck unloading area or from the existing silo, identified as LS1, through an extension of the pneumatic system for the Boiler 5 day bin, identified as LI5, to the day bin for Boiler 6, identified as LI6, with emissions controlled by a bin vent exhausting to vent BVLI6.

Emission Units to be Removed

As part of this modification, the following emission unit and pollution control devices are to be decommissioned and removed from the source prior to operation of the new emission units:

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a nominal 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).

Permitted Emission Units and Pollution Control Equipment

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 nominal 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 nominal capacity of 274 MMBtu/hr, with a multi-cyclone collector and a multi-compartment baghouse 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) 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 nominal capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 NSPS (40 CFR 60, Subpart D), Boiler 3 is considered an affected source.

(d) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation started in 1989 and completed in 1991, with a nominal 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).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 5 is considered an affected source.

(e) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 6 is considered an affected source.

(f) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 7 is considered an affected source.

(g) One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a nominal capacity of 110 tons/hr, including: truck unloading station with two (2) hoppers; two (2) vibratory feeders; one (1) underground belt conveyor with a magnetic separator; and one (1) bucket elevator terminating at the top of Wade Utility Plant. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6, and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2) bunkers. The bunker for Boiler 1 and Boiler 6 exhaust to stack CB1. The bunker for Boiler 2 exhausts to CB2. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

(h) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a nominal capacity of 107 tons/hr, including: truck unloading 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 Utility Plant, with emissions from the final transfer point controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6, and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2) bunkers. The bunker for Boiler 1 and Boiler 6 exhaust to stack CB1. The bunker for Boiler 2 exhausts to CB2.

(i) One (1) outdoor coal storage pile area identified as COAL PILE 1, permitted in 1960, with particulate matter emissions exhausting to the atmosphere.

(j) One (1) coal preparation system for Boiler 5, with installation completed in 1991, with a nominal capacity of 12.68 tons/hr, including: one (1) enclosed 125 ton/hr Redler conveyor with one (1) enclosed pre-crusher (both serving in a back-up capacity), one (1) 150 ton/hr enclosed belt conveyor and pre-crusher with installation completed in 2009. Both lines feed into; one (1) coal storage bunker, two (2) weigh belt feeders; and two (2) enclosed crushers with emission directed to a baghouse exhausting to stack CB5.

Under the Standards of Performance for Coal Preparation Plants NSPS (40 CFR 60, Subpart Y), the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 are considered affected sources.

(k) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 1 and Boiler 2, identified as ASH Segment 1, with a nominal capacity of 14 tons per hour (ton/hr), installed in approximately 1960 and modified in 2002. Ash/particulate matter collected from the primary, secondary and tertiary (baghouse) collection units are 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.

(l) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 5 and Boiler 6, identified as ASH Segment 2, installed in 1991 and modified in 2002, exhausting to stacks ASH5A and ASH5B, with a nominal capacity of 20 tons/hr, with dust from ash transfer to the storage silo controlled by primary and secondary separator with tertiary baghouse filter, ASH5D. Ash is transferred from the silo to trucks at a nominal 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, ASH5C.

(m) Material handling for the limestone injection system for Boiler 5, including pneumatic conveyance system, identified as LC5, from truck to bulk storage in a silo outside, identified as LS1, or to a "day bin", identified as LI5, inside the plant at an offload rate of approximately 12.5 tons per hour (ton/hr); gravity fed from day bin into Boiler 5. Particulate emissions are controlled by a baghouse, identified as LSBH1, on the silo and filter cartridges, identified as BVLI5, on the day bin.

(n) One (1) limestone handling system for Boiler 6, permitted in 2010, with a nominal capacity of 12.5 tons/hr, including one (1) limestone pneumatic conveyor system, identified as LC6, from the truck unloading area or from the existing silo, identified as LS1, through an extension of the pneumatic system for the Boiler 5 day bin, identified as LI5, to the day bin for Boiler 6, identified as LI6, with emissions controlled by a bin vent exhausting to vent BVLI6.

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

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

(q) 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.

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

This source does not have any emission units that were constructed and/or operated without a permit.

Insignificant Activities (Only for FESOP Renewals and Title V Renewals)

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 (100°F) or;

(2) Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20□C (68°F); 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) Diesel and gasoline generators:

(1) One (1) BRK (nanotech) generator, with a nominal heat input rate of 3.4 MMBtu/hr.

(2) One (1) MJIS (biomed) generator, with a nominal heat input rate of 2.56 MMBtu/hr.

(3) Gasoline generators not exceeding one hundred ten (110) horsepower.

(4) Diesel generators not exceeding one thousand six hundred (1,600) horsepower.

(j) 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 (lb/hr) or 25 pounds per day, NO_X 5 pounds per hour (lb/hr) or 25 pounds per day, CO 25 pounds per day, PM 5 pounds per hour (lb/hr) or 25 pounds per day, VOC 3 pounds per hour (lb/hr) or 15 pounds per day:

(1) One (1) No. 2 fuel oil fired poultry incinerator, installed in 2007, with an afterburner and a 70 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]

Enforcement Issues

There are no pending enforcement actions related to this modification.

Stack Summary

Boiler 6 will be using the existing WADE 01 stack, and Boiler 7 will be using the existing WADE 03 stack. The limestone bunker will be using a new stack identified as BVLI6.

All other stacks remain the same as previously permitted.

Emission Calculations

These calculations are provided in Appendix A of this document.

Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency."

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Table 4: PTE Before Controls of the Modification

Pollutant	**Potential To Emit** (ton/yr)
CO	399.20
NO_X	440.54
PM	45,253.52
PM_{10}	835.91
$PM_{2.5}$	601.36
SO_2	6,658.35

Table 4: PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (ton/yr)
VOC	23.49
Sulfuric Acid Mist (H_2SO_4)	9.15
HAP: Lead (Pb)	0.08
HAP: Beryllium (Be)	0.03536
HAP: Mercury (Hg)	0.01
HAP: Fluorides (F)	0.34
HAP: Hexane (C_6H_{14})	2.25
HAP: Hydrochloric Acid (HCl)	33.29
Total HAPs	45.72

This source modification is subject to 326 IAC 2-7-10.5(g) because potential to emit PM, PM_{10}, SO_2, and NO_X are greater than 25 tons per year, potential to emit CO is greater than 100 tons per year, potential to emit HCl is greater than 10 tons per year, and potential to emit total HAP is greater than 25 tons per year. Additionally, the modification will be incorporated into the Part 70 Operating Permit Renewal.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Permit Level Determination for the Modification – PSD

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Table 5: Potential to Emit (ton/yr)											
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**	**Pb**	**Be**	**Hg**	**H_2SO_4**	**F**
Boiler 6	36.30	169.40	169.40	1,379.40	242.00	16.64	214.17	0.08	0.02569	0.006	6.99	0.34
Boiler 7	1.76	7.03	7.03	0.56	46.25	5.09	77.70	4.6e-4	1.1e-5	2.4e-4		
Limestone Handling	6.00	6.00	2.00									
Coal Handling	8.00	8.00	1.50									

Table 5: Potential to Emit (ton/yr)

Process / Emission Unit	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	VOC	CO	Pb	Be	Hg	H_2SO_4	F
Ash Handling	6.00	3.00	3.00									
Total for Modification	58.06	193.43	182.93	1,379.96	288.25	21.73	291.87	0.08	0.0257	0.007	6.99	0.34
Increases:												
• Poultry Incinerator	*0.13*	*0.12*	*0.12*	*1.22*	*0.80*	*NR*	*0.09*	*NR*	*NR*	*NR*	*NR*	*NR*
• Emergency Generators	*1.10*	*1.08*	*1.08*	*2.43*	*24.49*	*NR*	*5.64*	*NR*	*NR*	*NR*	*NR*	*NR*
• NG Boiler replacements	*0.16*	*0.16*	*0.16*	*0.01*	*0.87*	*NR*	*0.73*	*NR*	*NR*	*NR*	*NR*	*NR*
Decreases:												
• Removal of Boiler 1	*(421.17)*	*(301.55)*	*(187.66)*	*(1,390.19)*	*(353.44)*	*NR*	*(298.68)*	*NR*	*(3.8e-2)*	*NR*	*NR*	*NR*
Total for Modification after Netting	(361.72)	(106.77)	(3.38)	(6.57)	(39.04)	21.73	(0.36)	0.08	(1.3e-2)	0.007	6.99	0.34
Significant Level	25	15	10	40	40	40	100	0.6	4e-4	0.1	7.0	3.0

NR = Contemporaneous increases and decreases are not relevant for these pollutants.

This modification to an existing major stationary source is not major because the emissions increases are less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Federal Rule Applicability Determination - Entire Source

The following federal rules are applicable to the source:

(a) National Emission Standards for Hazardous Air Pollutants (NESHAPs)
There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 61) included in the permit for this source.

(b) New Source Performance Standards (NSPS)

(A) Boiler 3 is subject to the New Source Performance Standards for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 (40 CFR 60, Subpart D), which is incorporated by reference as 326 IAC 12.

Boiler 3 is subject to the following portions of Subpart D.

(1) 40 CFR 60.40(a)(1) and (c)
(2) 40 CFR 60.41
(3) 40 CFR 60.42(a) and (c)
(4) 40 CFR 60.43(a)(1)and (b-d)
(5) 40 CFR 60.44(a)(1-2), (b), and (e)
(6) 40 CFR 60.45
(7) 40 CFR 60.46

(B) Boiler 5, Boiler 6, and Boiler 7 are subject to the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60, Subpart Db), which is incorporated by reference as 326 IAC 12.

Boiler 5 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b(a) and (i)
(4) 40 CFR 60.43b(a)
(5) 40 CFR 60.44b(h), (i), and (l)(1)
(6) 40 CFR 60.45b
(7) 40 CFR 60.46b
(8) 40 CFR 60.47b
(9) 40 CFR 60.48b
(10) 40 CFR 60.49b

Boiler 6 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b(k)(1)
(4) 40 CFR 60.43b(h)(1)
(5) 40 CFR 60.44b(h), (i), and (l)(1)
(6) 40 CFR 60.45b
(7) 40 CFR 60.46b
(8) 40 CFR 60.47b
(9) 40 CFR 60.48b
(10) 40 CFR 60.49b

Boiler 7 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b(k)(1-2)
(4) 40 CFR 60.44b(h), (i), and (l)(1)
(5) 40 CFR 60.46b
(6) 40 CFR 60.48b
(7) 40 CFR 60.49b

(C) The coal preparation system for Boiler 5, including the crushers and COAL Segment 2, are subject to the New Source Performance Standards for Coal Preparation Plants (40 CFR 60, Subpart Y), which is incorporated by reference as 326 IAC 12.

The coal preparation system for Boiler 5 including the crushers and COAL Segment 2 are subject to the following portions of Subpart Y:

(1) 40 CFR 60.250
(2) 40 CFR 60.251
(3) 40 CFR 60.252(c)
(4) 40 CFR 60.254

(D) The limestone storage and handling operations are not subject to the Standards of Performance for Nonmetallic Mineral Processing Plants (40 CFR 60, Subpart OOO) because these operations will not include crushing or grinding of a nonmetallic mineral.

(c) National Emission Standards for Hazardous Air Pollutants (NESHAPs)
There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 20 and 40 CFR Part 63) included in the permit for this proposed modification.

Boiler 1, Boiler 2, Boiler 3, Boiler 5, Boiler 6, and Boiler 7 would have been 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. However, on June 8, 2007, the United States Court of appeals for the District of Columbia Circuit (in NRDC v. EPA, no. 04-1386) vacated in its entirety the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD. Additionally, since the state rule at 326 IAC 20-95 incorporated the requirements of the NESHAP 40 CFR 63, Subpart DDDDD by reference, the requirements of 326 IAC 20-95 are no longer effective. Therefore, the requirements of 40 CFR 63, Subpart DDDDD and 326 IAC 20-95 are not included in the permit.

Section 112(j) of the Clean Air Act (CAA)
The operation of Boiler 1, Boiler 2, Boiler 3, Boiler 5, Boiler 6, and Boiler 7 will emit greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs; therefore, Section 112(j) of the Clean Air Act (CAA) applies to Boiler 1, Boiler 2, Boiler 3, Boiler 5, and Boiler 7. Section 112(j) requires application of Maximum Achievable Control Technology (MACT). An application for applying MACT to Boiler 1, Boiler 2, Boiler 3, Boiler 5, and Boiler 7 for 112(j) was submitted to IDEM and no further action will be taken by IDEM at this time regarding 112(j).

Section 112(g) of the Clean Air Act (CAA)
The unrestricted emissions of proposed Boiler 6 would exceed ten (10) tons per year for a single HAP and twenty-five (25) tons per year for a combination of HAPs; therefore, Section 112(g) of the Clean Air Act (CAA), would apply to Boiler 6. In lieu of applying Maximum Achievable Control Technology (MACT) required by Section 112(g), Purdue will limit HAP emissions from Boiler 6 as follows:

HCl emissions from Boiler 6 shall be less than 10 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with this emission limits combined with the potential to emit HCl and total HAP emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than ten (10) tons per year of HCl and less than twenty-five (25) tons per year of total HAP emissions. Therefore the requirements of 326 IAC 2-4.1-1, Major Sources of Hazardous Air Pollutants (HAP), and Section 112(g) of the Clean Air Act (CAA) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

(d) Compliance Assurance Monitoring (CAM)
Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

Table 6: CAM Applicability Analysis

Emission Unit	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (ton/yr)	Controlled PTE (ton/yr)	Major Source Threshold (ton/yr)	CAM Applicable (Y/N)	Large Unit (Y/N)
Boiler 1 - PM/PM_{10}	MC/ESP	Y	>100	<100	100	Y	N
Boiler 2 - PM/PM_{10}	MC/BH	Y	>100	<100	100	Y	N
Boiler 5 - SO_2	LI	Y	>100	>100	100	Y	Y
Boiler 5 - PM/PM_{10}	BH	Y	>100	<100	100	Y	N
Boiler 6 - SO_2	LI	Y	>100	>100	100	Y	Y
Boiler 6 - PM/PM_{10}	BH	Y	>100	<100	100	Y	N
Limestone Handling	BH	Y	>100	<100	100	Y	N
Coal Handling	BH	Y	>100	<100	100	Y	N
Ash Handling	BH	Y	>100	<100	100	Y	N

BH = Baghouse; ESP = Electrostatic Precipitator; MC = Multiclone; LI = Lime Injection

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to:

(I) Boiler 1 for PM and PM_{10}.

(II) Boiler 2 for PM and PM_{10}.

(III) Boiler 5 for PM, PM_{10}, and SO_2.

(IV) Boiler 6 for PM, PM_{10}, and SO_2.

upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

<u>CAM Evaluation for the 2010 Modification</u>

(A) Boiler 6

(i) The proposed modification will not have a potential to emit before controls equal to or greater than the major source threshold for Be, Pb, Hg, H_2SO_4, hexane, and fluorides emissions from Boiler 6; therefore, the requirements of 40 CFR Part 64, CAM, are not applicable to Be, Pb, Hg, H_2SO_4, hexane, and fluorides emissions from Boiler 6.

(ii) The proposed modification will not add any control devices for CO, HCl, NO_X and VOC emissions from Boiler 6; therefore, the requirements of 40 CFR Part 64, CAM, are not applicable to CO, HCl, NO_X and VOC emissions from Boiler 6.

(iii) For $PM/PM_{10}/PM_{2.5}$ emissions from Boiler 6, the proposed modification will have a potential to emit before controls equal to or greater than the major source thresholds, will be controlled by a baghouse, and will include emission limitations. The requirements of 40 CFR Part 64, CAM, are applicable to $PM/PM_{10}/PM_{2.5}$ emissions from Boiler 6 upon start-up.

Boiler 6 is also subject to the requirements of 40 CFR 60, Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. Pursuant to 40 CFR 64.3(d)(2)(ii), the use of a CEMS, COMS, or PEMS that satisfies any of the monitoring requirements in 40 CFR 60.13 and Appendix B of 40 CFR Part 60 shall be deemed to satisfy the general design criteria in 40 CFR 64.3 (a) and (b), provided that a COMS may be subject to the criteria for establishing indicator ranges under 40 CFR 64.3(a).

(iv) For SO_2 emissions from Boiler 6, the proposed modification will have a potential to emit before and after controls equal to or greater than the major source threshold, will be controlled by a lime injection system, and will include an emission limitation. The requirements of 40 CFR Part 64, CAM are applicable to SO_2 from Boiler 6 upon start-up.

(B) Boiler 7
The proposed modification will not add any control devices for any pollutants emitted from Boiler 7; therefore, the requirements of 40 CFR Part 64, CAM, are not applicable to Boiler 7

(C) Material Handling:
The proposed modification will have a potential to emit before controls greater than the major source thresholds for $PM/PM_{10}/PM_{2.5}$ from the limestone, coal, and ash storage and handling operations; therefore, the requirements of 40 CFR Part 64, CAM, are applicable to $PM/PM_{10}/PM_{2.5}$ emissions from limestone, coal, and ash storage and handling operations.

(e) Title IV Acid Rain Program
Boiler 1, Boiler 2, Boiler 3, Boiler 5, Boiler 6, and Boiler 7 are not subject to the Title IV Acid Rain Program under 40 CFR 72.

(f) Clean Air Interstate Rule (CAIR)
Boiler 1, Boiler 2, Boiler 3, Boiler 5, Boiler 6, and Boiler 7 are subject to the Clean Air Interstate Rule (CAIR) Nitrogen Oxides Ozone Season Trading Program – CAIR Permit for CAIR Units under 40 CFR 97.

State Rule Applicability - Entire Source

The following state rules are applicable to the source:

326 IAC 1-6-3 (Preventive Maintenance Plan)
The source is subject to 326 IAC 1-6-3.

326 IAC 1-5-2 (Emergency Reduction Plans)
The source is subject to 326 IAC 1-5-2.

326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-3(a)(1), since this source has a potential to emit NO_X greater than 2,500 tons per year, SO_2 greater than 2,500 tons per year, and PM_{10} greater than 250 tons per year, an emission statement covering the previous calendar year must be submitted by July 1 of each year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

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

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6)-minute averaging period as determined in 326 IAC 5-1-4.

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

326 IAC 6-4 (Fugitive Dust Emissions)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the Permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) though (4) are violated pursuant to 326 IAC 6-4-5(c). Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM.

326 IAC 9 (Carbon Monoxide Emission Limits)
Pursuant to 326 IAC 9 (Carbon Monoxide Emission Limits), the source is subject to this rule because it is a stationary source which emits CO emissions and commenced operation after March 21, 1972. Under this rule, there is not a specific emission limit because the source is not an operation listed under 326 IAC 9-1-2.

State Rule Applicability Determination - Individual Facilities

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 (PSD)
Since the uncontrolled potential to emit of the modification to add Boiler 6 and Boiler 7 is greater than PSD significant levels for beryllium (Be), NO_X, PM, PM_{10}, SO_2, and sulfuric acid mist (H_2SO_4), this source has elected to limit the potential to emit of this modification to below PSD significant levels for Be, CO, NO_X, PM, PM_{10}, SO_2, and H_2SO_4, as follows:

Retirement of Existing Operations
Pursuant to 326 IAC 2-2, the Permittee shall permanently discontinue the operation of Boiler 1 within one hundred eighty (180) days of the startup date for either Boiler 6 or Boiler 7, whichever date is earlier.

Boiler 6
(a) CO emissions from Boiler 6 shall not exceed 214.17 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) NO_X emissions from Boiler 6 shall not exceed 242.00 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(c) PM emissions from Boiler 6 shall not exceed 36.30 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(d) PM_{10} emissions from Boiler 6 shall not exceed 169.40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(e) $PM_{2.5}$ emissions from Boiler 6 shall not exceed 169.40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(f) SO_2 emissions from Boiler 6 shall not exceed 1,379.40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(g) Be emissions from Boiler 6 shall not exceed 0.02569 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(h) H_2SO_4 emissions from Boiler 6 shall be less than 7.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Boiler 7

(a) The natural gas usage for Boiler 7 shall not exceed 1850 million cubic feet (MMCF) per twelve (12) consecutive month period. Compliance with this limit shall be determined at the end of each month.

(b) CO emissions from Boiler 7 shall not exceed 0.0824 pounds per million British thermal units (lb/MMBtu) of heat input.

(c) NO_X emissions from Boiler 7 shall not exceed 0.049 pounds per million British thermal units (lb/MMBtu) of heat input.

(d) PM emissions from Boiler 7 shall not exceed 0.0019 pounds per million British thermal units (lb/MMBtu) of heat input.

(e) PM_{10} emissions from Boiler 7 shall not exceed 0.0075 pounds per million British thermal units (lb/MMBtu) of heat input.

(f) $PM_{2.5}$ emissions from Boiler 7 shall not exceed 0.0075 pounds per million British thermal units (lb/MMBtu) of heat input.

(g) SO_2 emissions from Boiler 7 shall not exceed 0.0006 pounds per million British thermal units (lb/MMBtu) of heat input.

Coal Storage and Handling Operations

(a) Total PM emissions from the coal storage and handling systems identified as COAL Segment 1 and COAL Segment 2 shall not exceed 8.0 tons of PM per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM_{10} emissions from the coal storage and handling systems identified as COAL Segment 1 and COAL Segment 2 shall not exceed 8.0 tons of PM_{10} per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) $PM_{2.5}$ emissions from the coal storage and handling systems identified as COAL Segment 1 and COAL Segment 2 shall not exceed 1.5 tons of $PM_{2.5}$ per twelve (12) consecutive month period, with compliance determined at the end of each month.

Ash Storage and Handling Operations

(a) Total PM emissions from the ash handling equipment included in Ash Segment 2 associated with Boiler 5 and Boiler 6 shall be limited at all times the unit is handling ash to not exceed 6.0 tons of PM per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM_{10} emissions from the ash handling equipment included in Ash Segment 2 associated with Boiler 5 and Boiler 6 shall be limited at all times the unit is handling ash to not exceed 3.0 tons of PM_{10} per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) $PM_{2.5}$ emissions from the ash handling equipment included in Ash Segment 2 associated with Boiler 5 and Boiler 6 shall be limited at all times the unit is handling ash to not exceed 3.0 tons of $PM_{2.5}$ per twelve (12) consecutive month period, with compliance determined at the end of each month.

Limestone Storage and Handling Operations

(a) Total PM emissions from the limestone storage and handling equipment, LSBH1, BVLI5, and BVLI6, shall be limited at all times the unit is handling limestone to not exceed 6.0 tons of PM per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM_{10} emissions from the limestone storage and handling equipment, LSBH1, BVLI5, and BVLI6, shall be limited at all times the unit is handling limestone to not exceed 6.0 tons of PM_{10} per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) $PM_{2.5}$ emissions from the limestone storage and handling equipment, LSBH1, BVLI5, and BVLI6, shall be limited at all times the unit is handling limestone to not exceed 2.0 tons of $PM_{2.5}$ per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the requirement to retire operation on Boiler 1 and these emission limits combined with the potential to emit Be, CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, and H_2SO_4, emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including coal storage and handling systems, ash handling operations, and limestone storage and handling operations, will limit the potential to emit from this modification to less than 0.0004 tons per year of Be, less than one hundred (100) tons per year of CO, less than forty (40) tons per year of NO_X, less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, less than ten (10) tons per year of $PM_{2.5}$, less than forty (40) tons per year of SO_2, and less than seven (7) tons per year of H_2SO_4. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including coal storage and handling systems, ash handling operations, and limestone storage and handling operations.

326 IAC 2-4.1-1 (Major Sources of Hazardous Air Pollutants (HAP))

The unrestricted emissions of proposed Boiler 6 would exceed ten (10) tons per year for a single HAP and twenty-five (25) tons per year for a combination of HAPs; therefore, 326 IAC 2-4.1-1 would apply to Boiler 6. 326 IAC 2-4.1-1 is intended to implement Section 112(g)(2)(B) of the Clean Air Act (CAA) which requires application of Maximum Achievable Control Technology (MACT). In lieu of applying case-by-case MACT required by 326 IAC 2-4.1-, Purdue will limit HAP emissions from Boiler 6 as follows:

HCl emissions from Boiler 6 shall be less than 10 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with this emission limits combined with the potential to emit HCl and total HAP emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than ten (10) tons per year of HCl and less than twenty-five (25) tons per year of total HAP emissions. Therefore the requirements of 326 IAC 2-4.1-1, Major Sources of Hazardous Air Pollutants (HAP), and Section 112(g) of the Clean Air Act (CAA) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

326 IAC 5-1-3 (Temporary Alternative Opacity Limitations)
Boiler 1, Boiler 2, Boiler 3, Boiler 5, Boiler 6, and Boiler 7 are subject to the Temporary Alternative Opacity Limitations in 326 IAC 5-1-3.

326 IAC 6-2 (Particulate Emissions Limitations for Source of Indirect Heating)
Pursuant to 326 IAC 6-2-2 (Particulate Emission Limitations for Sources of Indirect Heating), PM emissions from fuel combustion shall be limited to the pounds per MMBtu heat input values expressed in the following table:

Table 7: Particulate Emissions Limitations for Source of Indirect Heating

Units	Installation Date	Rating (MMBtu/hr)	Q (MMBtu/hr)	Pt (lb/MMBtu)	Applicable Rule
Boiler 1	1960	281	555	0.64	326 IAC 6-2-3
Boiler 2	1967	274	555	0.64	326 IAC 6-2-3
Boiler 3	1973	216	771	NA	NSPS D
Boiler 5	1989	279	1,062	NA	NSPS Db
Boiler 6	2010	380	1,732	NA	NSPS Db
Boiler 7	2010	290	1,732	NA	NSPS Db
NG combustion	existing	10	783	0.19	326 IAC 6-2-4
FO combustion	existing	2	783	0.19	326 IAC 6-2-4

(a) Pursuant to 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating), the emission limits for Boiler 1 and Boiler 2 were calculated using the following equation:

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

where: Pt = pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input
C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain.
a = Plume rise factor which is used to make allowance for less than theoretical plume rise.
Q = Total source maximum operating capacity rating in MMBtu/hr heat input.
N = Number of stacks in fuel burning operation.
N_{B1}, N_{B2}= 2
N_{B3} = 3
h = Stack height in feet.
h_{B1}, h_{B2}, h_{B3} = 200 feet
If a number of stacks of different heights exist, the average stack height to represent "N" stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\Sigma H_i \times pa_i \times Q}{\Sigma pa_i \times Q}$$

where: pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data.

(b) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the emission limits for combustion using natural gas and fuel oil, were calculated using the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

where: Pt = pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input
Q = Total source maximum operating capacity rating in MMBtu/hr heat input.

(c) Boiler 3, Boiler 5, Boiler 6, and Boiler 7 are also subject to the particulate limitations under 40 CFR 60, Subparts D and Db, which are incorporated into 326 IAC 12. Pursuant to 326 IAC 6-2-1(f) (Particulate Emission Limitations for Sources of Indirect Heating), If any limitation established by this rule is inconsistent with applicable limitations contained in 326 IAC 12 concerning new source performance standards, then the limitations contained in 326 IAC 12 prevail.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the ***(process)*** shall not the pounds per hour emission rates in the following table when operating at the process weight rate in the table:

Table 8: Particulate Emission Limitations for Manufacturing Processes

Process / Emission Unit	Control Device	**P** (ton/hr)	**E** (lb/hr)	Equation Used
Boiler 1	ESP/BH	12.77	32.79	a
Boiler 2	BH	12.45	32.59	a
Boiler 5	BH	12.68	32.73	a
Boiler 6	BH	17.27	35.24	a
COAL Segment 1	RotoClone	110	52.24	b
COAL Segment 2	3 BH	107	51.96	b
Coal Preparation System	BH	12.68	32.73	a
ASH Segment 1	BH	14	33.53	a
ASH Segment 2	BH	20	36.47	a
Limestone Handling for Boilers 5 & 6	Bin Vent & BH	12.50	32.61	a

The pound per hour limitations were calculated with the following equations:

(a) 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:

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

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

(b) 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:

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

The associated control equipment shall be in operation at all times the corresponding process equipment is in operation, in order to comply with these limits.

326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-2(a)(1), sulfur dioxide emissions from the Boilers shall not exceed the following using a calendar month average:

Table 9: Sulfur Dioxide Emission Limitations

Units	Fuel	SO_2 Limit (lb/MMBtu)	Applicable Rule
Boiler 1	coal	6.0	326 IAC 7-1.1-2(a)(1)
Boiler 2	coal	6.0	326 IAC 7-1.1-2(a)(1)
Boiler 3	natural gas and distillate	0.5 when using distillate	326 IAC 7-1.1-2(a)(3)
Boiler 5	coal	6.0	326 IAC 7-1.1-2(a)(1)
Boiler 6	coal	6.0	326 IAC 7-1.1-2(a)(1)

326 IAC 8-1-6 (New facilities; general reduction requirements)
The potential to emit of VOC of each Boiler (Boiler 6 and Boiler 7) is less than 25 tons per year per unit; therefore, the requirements of 8-1-6 (BACT) do not apply to Boiler 6 and Boiler 7.

326 IAC 10-4 (Nitrogen Oxides Budget Trading Program)
The Nitrogen Oxide budget trading program is no longer applicable to any control period in 2009 or thereafter. Therefore, pursuant to 326 IAC 10-4-16(a), IDEM, OAQ, has removed Section E - Nitrogen Oxides Budget Trading Program in its entirety from the permit.

326 IAC 24 (Clean Air Interstate Rule (CAIR))
Boiler 1, Boiler 2, Boiler 3, Boiler 5, Boiler 6, and Boiler 7 are subject to the Clean Air Interstate Rule (CAIR) Nitrogen Oxides Annual, Sulfur Dioxide, and Nitrogen Oxides Ozone Season Trading Programs – CAIR Permit for CAIR Units Under 326 IAC 24-1-1(a), 326 IAC 24-2-1(a), and 326 IAC 24-3-1(a).

Compliance Determination and Monitoring Requirements - Boiler 6 & Boiler 7

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

Compliance Determination Requirements
The Compliance Determination Requirements applicable to this source are as follows:

Table 10: Summary of Testing Requirements

Emission Unit and Stack	Control Device	Pollutant	Limit / Requirement	Testing	
Boiler 1 (WADE 01) and Boiler 2 (WADE 02)	Boiler 1 - ESP Boiler 2 - Baghouse	PM	0.64 lb/MMBtu of heat input	every 2 years	
Boiler 3 WADE 03	Baghouse	PM	0.10 lb/MMBtu for NSPS D	per NSPS D	
Boiler 5 WADE 05	Baghouse	PM	0.051 lb/MMBtu for NSPS Db	every 2 years	
	none	CO	0.27 lb/MMBtu	every 2 years	
Boiler 6 WADE 01	Baghouse	PM	Establish lb/MMBtu emission factor during testing	within 180 days of startup	every 2 years
		PM_{10}		... or 180 days of new test method	
		$PM_{2.5}$		... or 180 days of new test method	
	none	CO		within 180 days of startup	every 2 years
	Baghouse	Be		within 180 days of startup	every 2 years
	lime injection	H_2SO_4		within 180 days of startup	every 2 years
	none	HCl		within 180 days of startup	every 2 years

These testing conditions are necessary to demonstrate compliance with 326 IAC 2-4.1-1 (Major Sources of HAP), 326 IAC 2-2-3 (PSD BACT), 326 IAC 2-7 (Part 70), Section 112(g) of the Clean Air Act (CAA), 40 CFR 60, and 40 CFR 64.

Compliance Monitoring Requirements
The compliance monitoring requirements applicable to this modification are as follows:

Table 11: Summary of Compliance Monitoring Requirements

Control Device	Parameter	Frequency	Range/Limit	Excursions and Exceedances
Boiler 1	Opacity	continuous	40%	Response steps if > 25%

Table 11: Summary of Compliance Monitoring Requirements

Control Device	Parameter	Frequency	Range/Limit	Excursions and Exceedances
Boiler 1 ESP	Primary voltage Secondary voltage T R set secondary current:	Daily if COMS down > 24 hours	275 – 430 V 29 – 45 kV 150 – 405 mA	Response steps
Boiler 2	Opacity	continuous	40%	Response steps if > 20%
Boiler 2 Baghouse	Pressure Drop	Daily if COMS down > 24 hours	1” – 7” of water	Response steps
Boiler 3	Opacity	continuous (fuel oil)	40%	Response steps if > 20%
Boiler 3	NO_X	continuous	0.20 lb/MMBtu (gas) 0.30 lb/MMBtu (liquid)	Response steps
Boiler 3	SO_2	Each Tank Addition	0.50 lb/MMBtu (fuel sampling)	Response steps
Boiler 5	SO_2	continuous	0.9 lb/MMBtu (30-day) 1.1 lb/MMBtu (24-hour)	Response steps
Boiler 5	Opacity	continuous	40%	Response steps
Boiler 5 Baghouse	Pressure Drop	Daily if COMS down > 24 hours	1” – 7” of water	Response steps
Boiler 6	NO_X	continuous	242.00 tons/12 months	Response steps
Boiler 6	SO_2	continuous	1,379.40 tons/12 months	Response steps
Boiler 6	Opacity	continuous	40%	Response steps
Boiler 6 Baghouse	Pressure Drop	Daily if COMS down > 24 hours	1” – 7” of water	Response steps
coal unloading station	Visible emission notations	Weekly	Normal-Abnormal	Response steps
coal transfer exhaust point	Visible emission notations	Weekly	Normal-Abnormal	Response steps
COAL Segment 2 Baghouse CV1	Pressure Drop	Weekly	4” – 10” of water	Response steps
COAL Segment 2 Baghouse CV2	Pressure Drop	Weekly	5” – 12” of water	Response steps

Table 11: Summary of Compliance Monitoring Requirements				
Control Device	**Parameter**	**Frequency**	**Range/Limit**	**Excursions and Exceedances**
COAL Segment 2 Baghouse CV3	Pressure Drop	Weekly	4" – 10" of water	Response steps
pneumatic ash handling system Boilers 1 and 2	Visible emission notations	Daily	Normal-Abnormal	Response steps
pneumatic ash handling system Boilers 1 and 2 3 Baghouses	Pressure Drop	Daily	1" – 7" of water	Response steps
pneumatic ash handling system Boilers 5 and 6	Visible emission notations	Daily	Normal-Abnormal	Response steps
pneumatic ash handling system Boilers 5 and 6 3 Baghouses	Pressure Drop	Daily	1" – 7" of water	Response steps
limestone handling system Boilers 5 and 6	Visible emission notations	Weekly	Normal-Abnormal	Response steps
limestone handling system Boilers 5 and 6	Pressure Drop	Weekly	1" – 7" of water	Response steps

These monitoring conditions are necessary because the above listed control devices must operate properly to ensure compliance with 326 IAC 2-2-3 (PSD BACT), 326 IAC 2-7 (Part 70), 40 CFR 60, and 40 CFR 64.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. T 157-7340-00012 and incorporated into Part 70 Operating Permit Renewal No. T 157-27313-00012. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Change No. 1 The following change has been made throughout the permit so the language will match what is in 326 IAC.

... require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)**...

...by ~~the~~ **a** "responsible official"...

...by ~~the~~ **a** responsible official...

Change No. 2 All references to IDEM, OAQ's mailing address have been revised as follows:

Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue, ~~P.O. Box 6015~~
Indianapolis, Indiana ~~46206-6015~~ **46204-2251**

Change No. 3 The IDEM address has been updated throughout the permit as follows to include the mail code specific to each section of the Office of Air Quality:

Technical Support and Modeling Section:	**MC 61-50, IGCN 1003**
Compliance and Enforcement Branch:	**MC 61-53, IGCN 1003**
Permit Administration and Support Section:	**MC 61-53, IGCN 1003**

Change No. 4 Several of IDEM's Branches and sections have been renamed. Therefore, IDEM has updated the addresses and contact information listed in the permit. References to "Permit Administration and Development Section" and the "Permits Branch" have been changed to "Permit Administration and Support Section". References to "Asbestos Section", "Compliance Data Section", "Air Compliance Section", "Compliance Section", and "Compliance Branch" have been changed to "Compliance and Enforcement Branch".

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue~~, P.O. Box 6015~~
MC 61-53, IGCN 1003
Indianapolis, Indiana ~~46206-6015~~ **46204-2251**

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue~~, P.O. Box 6015~~
MC 61-53, IGCN 1003
Indianapolis, Indiana ~~46206-6015~~ **46204-2251**

Change No. 5 All references to the IDEM, OAQ, Compliance and Enforcement Branch telephone number and facsimile number have been revised as follows:

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, ~~Compliance Section~~ **Compliance and Enforcement Branch**), or
Telephone Number: 317-233-0178 (ask for ~~Compliance Section~~ **Compliance and Enforcement Branch**)

Change No. 6 Conditions A.3 and A.4 have been revised as follows to update the list of emission units:

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) ...

(b) One (1) spreader stoker coal fired boiler, identified as Boiler 2, with installation completed in 1967, with a ~~maximum~~ **nominal** capacity of 274 MMBtu/hr, with a multi-cyclone collector and ~~an electrostatic precipitator or~~ a multi-compartment baghouse 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).

~~(d)~~ **(c)** ...

Under the ~~Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units~~ **Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971** NSPS (40 CFR 60, Subpart D), Boiler 3 is considered an affected source.

~~(c)~~ **(d)** ...

(e) **One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).**

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 6 is considered an affected source.

(f) **One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).**

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 7 is considered an affected source.

~~(e)~~ **(g)** One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a ~~maximum~~ **nominal** 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~~ **Utility Plant**. Coal is fed to the bunkers for ~~Boilers 1 and 2,~~ **Boiler 1, Boiler 2, and Boiler 6,** and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the ~~Boiler 1 and Boiler 2~~ **Boiler 1, Boiler 2, and Boiler 6** bunkers are controlled by a RotoClone for each ~~bunker~~ **of the two (2) bunkers.** ~~and~~ **The bunker for Boiler 1 and Boiler 6** exhaust to stack CB1**. The bunker for Boiler 2 exhausts to** ~~and~~ CB2~~, respectively~~. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

~~(f)~~ **(h)** One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a ~~maximum~~ **nominal** capacity of 107 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 **and one (1) Boiler 6 coal pre-crusher**, 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~~ **Utility Plant**, 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,~~ **Boiler 1, Boiler 2, and Boiler 6,** and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the ~~Boiler 1 and Boiler 2~~ **Boiler 1, Boiler 2, and Boiler 6** bunkers are controlled by a RotoClone for each ~~bunker~~ **of the two (2) bunkers.** ~~and~~ **The bunker for Boiler 1 and Boiler 6** exhaust to stack CB1**. The bunker for Boiler 2 exhausts to** ~~and~~ CB2~~, respectively~~.

(i) **One (1) outdoor coal storage pile area identified as COAL PILE 1, permitted in 1960, with particulate matter emissions exhausting to the atmosphere.**

~~(g)~~ **(j)** One (1) coal preparation system for Boiler 5, with installation ~~started in 1989 or 1990 and~~ completed in 1991, with a ~~maximum~~ **nominal** capacity of 12.68 tons/hr, including: **one (1) enclosed 125 ton/hr Redler conveyor with one (1) enclosed pre-crusher (both serving in a back-up capacity),** one (1) **150 ton/hr** enclosed **belt conveyor and** pre-crusher **with installation completed in 2009. Both lines feed into**~~;~~ one (1) coal storage **bunker,** ~~silo (aka coal storage bunker) with a baghouse exhausting to stack CB5;~~ two (2) weigh belt feeders; and two (2) enclosed crushers **with emission directed to a baghouse exhausting to stack CB5**.

Under the Standards of Performance for Coal Preparation Plants NSPS (40 CFR 60, Subpart Y), the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 are considered affected sources.

~~(h)~~ **(k)** One (1) pneumatic ash handling system for fly ash and bottom ash from ~~Boilers~~ **Boiler** 1 and **Boiler** 2, identified as ASH Segment 1, with a ~~maximum~~ **nominal** capacity of 14 tons per hour **(ton/hr)**, installed in approximately 1960 and modified in 2002. Ash/particulate matter collected from the primary, secondary and tertiary (baghouse) collection units are 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)~~ **(l)** One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 5 **and Boiler 6**, identified as ASH Segment 2, installed in 1991 and modified in 2002, exhausting to stacks ASH5A and ASH5B, with a ~~maximum~~ **nominal** capacity of 20 tons/hr, with dust from ash transfer to the storage silo controlled by primary and secondary separator with tertiary baghouse filter**, ASH5D**. Ash is transferred from the silo to trucks at a ~~maximum~~ **nominal** 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, ASH5C.

~~(j)~~ **(m)** Material handling for the limestone injection system for Boiler 5, including pneumatic conveyance **system, identified as LC5,** from truck to bulk storage in a silo outside**, identified as LS1,** or to a "day bin"**, identified as LI5,** inside the plant at an offload rate of approximately 12.5 tons per hour **(ton/hr)**; gravity fed from day bin into ~~the boiler~~ **Boiler 5**. Particulate emissions are controlled by a baghouse**, identified as LSBH1,** on the silo and filter cartridges**, identified as BVLI5,** 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.~~

(n) **One (1) limestone handling system for Boiler 6, permitted in 2010, with a nominal capacity of 12.5 tons/hr, including one (1) limestone pneumatic conveyor system, identified as LC6, from the truck unloading area or from the existing silo, identified as LS1, through an extension of the pneumatic system for the Boiler 5 day bin, identified as LI5, to the day bin for Boiler 6, identified as LI6, with emissions controlled by a bin vent exhausting to vent BVLI6.**

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

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

~~(m)~~ **(q)** ...

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

(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]

(h) Diesel and gasoline generators:

(1) One (1) BRK (nanotech) generator, with a nominal heat input rate of 3.4 MMBtu/hr.

(2) One (1) MJIS (biomed) generator, with a nominal heat input rate of 2.56 MMBtu/hr.

(3) Gasoline generators not exceeding one hundred ten (110) horsepower.

(4) Diesel generators not exceeding one thousand six hundred (1,600) horsepower.

(i) ...

Change No. 7 Condition B.2, Permit Term, is revised as follows to reference the draft operating permit renewal:

B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5] [326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]

(a) ~~This permit, T157-7340-00012,~~ **The Part 70 Operating Permit Renewal, T 157-27313-00012,** 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 or of permits issued pursuant to Title IV of the Clan Air Act and 326 IAC 21 (Acid Deposition Control).

(b) ...

Change No. 8 There may be times when it is unnecessary for a responsible official to "certify" additional information requested by IDEM; therefore, paragraph (a) of Condition B.8, Duty to Provide Information, is revised as follows:

B.8 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 a 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) ...

Change No. 9 Condition B.9, Certification, is revised as follows:

B.9 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, 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,~~ **A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:**

(i) it contains a certification by a "responsible official", as defined by 326 IAC 2-7-1 (34), and

(ii) the certification is 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 Permittee may use** the attached Certification Form ~~or another form meeting the requirements of 326 IAC 2-7-4(f)~~**, or its equivalent**, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

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

Change No. 10 The Preventive Maintenance Plan requirements have been clarified as follows:

B.11 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:~~

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

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

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

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

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

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

~~The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34)~~

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

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

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

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

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

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

~~(b)~~ **(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 PMPs do not require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

~~(c)~~ **(d)** ...

Change No. 11 The emergency provisions requirements have been clarified as follows:

B.12 Emergency Provisions [326 IAC 2-7-16]

(a) (b) ...

(1) - (3) ...

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, ~~within~~ **no later than** four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

...

(5) ...

~~within~~ **no later than** 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) - (C)...

The notification which shall be submitted by the Permittee does not require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

(6) ...

(c) - (g) ...

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

Change No. 12 Paragraph (c) of Condition B.17, Permit Renewal, is updated as follows:

B.17 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

(a) - (b) ...

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 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 the deadline specified **pursuant to 326 IAC 2-7-4(a)(2)(D)** in writing by IDEM, OAQ any additional information identified as being needed to process the application.

Change No. 13 Paragraph (a) of Condition B.19, Permit Revision Under Economic Incentives and Other Programs, is updated as follows:

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 **or notice** 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) ...

Change No. 14 Paragraph (b) of Condition B.21, Source Modification Requirement, is deleted as it is redundant to Condition B.21(a). The changes are as follows:

B.21 Source Modification Requirement [326 IAC 2-7-10.5] [326 IAC 2-2-2]

~~(a)~~ A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

~~(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2.~~

Change No. 15 Condition C.2, Opacity, is revised as follows:

C.2 Opacity [326 IAC 5-1]

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

(a) - (b) ...

Change No. 16 Condition C.4, Incineration, is revised as follows:

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

Change No. 17 The Performance Testing requirements have been clarified as follows:

C.8 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~~ **For performance testing required by this permit, a** test protocol, except as provided elsewhere in this permit, shall be submitted to:

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "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 **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "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. The extension request submitted by the Permittee does not require **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

Change No. 18 The Compliance Monitoring requirements have been clarified as follows:

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

~~Unless otherwise specified in this permit, for all monitoring and record keeping requirements not already legally required shall be implemented not later than ninety (90) days after permit issuance. The Permittee shall be responsible for installing any equipment described in Section D and initiating any required monitoring related to that equipment. If due to circumstances beyond its reasonable 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:~~

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

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

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

The notification which shall be submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "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.

Change No. 19 The general requirements for Monitoring Methods were removed from Section C as follows (This provision will be included as needed in Section D of the permit.):

~~C.11 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 applicable 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.~~

Change No. 20 IDEM has decided that the requirements pertaining to CEMS and COMS are best addressed in Sections D and E of the permit; therefore, Condition C.12 has been removed from Section C as follows:

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

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

~~(b) All COMS 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 COMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.~~

~~(d) Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.~~

~~(1) 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.~~

~~(2) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.~~

~~(3) Method 9 readings may be discontinued once a COMS is online.~~

~~(4) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.~~

~~(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.~~

Change No. 21 IDEM has decided not to list the submission date of the ERP because the ERP can be updated without permit change. Paragraph (a) of Emergency Reduction Plans is revised as follows:

~~C.14~~ **C.12** 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~~ **shall maintain the most recently** submitted written emergency reduction plans (ERPs) consistent with safe operating procedures ~~on December 22, 2004~~.

(b) ...

Change No. 22 IDEM is revising Response to Excursions or Exceedances as follows:

~~C.16~~**C.14** Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

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

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

(b) The response shall include minimizing the period of any startup, shutdown or malfunction ~~and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions)~~. ~~Corrective actions~~ **The response** may include, but ~~are~~ **is** not limited to, the following:

(1) initial inspection and evaluation;

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

(3) any necessary follow-up actions to return operation to ~~within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable~~ **normal or usual manner of operation**.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not **necessarily** limited to, the following:

(1) - (3) ...

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall ~~maintain the following records:~~ **record the reasonable response steps taken.**

~~(1) monitoring data;~~

~~(2) monitor performance data, if applicable; and~~

~~(3) corrective actions taken.~~

Change No. 23 IDEM is revising paragraph (b) of Actions Related to Noncompliance Demonstrated by a Stack Test as follows:

~~C.18~~**C.15** 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~~ **its** response actions to IDEM, OAQ, no later than ~~thirty (30)~~ **seventy-five (75)** days after ~~receipt~~ **the date** 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~~ **no later than** one hundred ~~twenty (120)~~ **eighty (180)** days ~~of receipt~~ **after the date** of the ~~original~~ test ~~results~~. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred ~~twenty (120)~~ **eighty (180)** days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) ...

The response action documents submitted pursuant to this condition do require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

Change No. 24 IDEM is revising paragraph (a) of Emission Statement as follows:

~~C.19~~**C.16** 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~~ **no later than** July 1 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)~~**(a)** Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

~~(2)~~**(b)** 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 purpose 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
MC 61-50, IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "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.~~

Change No. 25 The General Record Keeping Requirements are revised as follows:

~~C.20~~ **C.17** General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(a) ...

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

~~(c) If there is a reasonable possibility that a "project" [as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)] at an existing emissions unit, other than projects at a Clean Unit, which is not part of a "major modification" [as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)] may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" [as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)], the Permittee shall comply with following:~~

~~(1) Before beginning actual construction of the "project" [as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)] at an existing emissions unit, document and maintain the following records:~~

~~(A) A description of the project.~~

~~(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.~~

~~(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:~~

~~(i) Baseline actual emissions;~~

~~(ii) Projected actual emissions;~~

~~(iii) Amount of emissions excluded under section [326 IAC 2-2-1(rr)(2)(iii) and/or 326 IAC 2-3-1(mm)(2)(A)(3)]; and~~

~~(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.~~

~~(2) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and~~

~~(3) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.~~

(c) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the nominal capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

Change No. 26 Condition B.15, Deviations from Permit Requirements and Condition, is deleted and paragraph (a) of Condition C.21, General Reporting Requirements, is revised to clarify what is a deviation. The revisions to the permit are as follows:

~~B.15 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 and Enforcement Branch, Office of Air Quality~~
~~100 North Senate Avenue~~
~~MC 61-53, IGCN 1003~~
~~Indianapolis, Indiana 46204-2251~~

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

~~The Quarterly Deviation and Compliance Monitoring Report does require the certification by a "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.~~

~~C.21~~**C.18** General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(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**, except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report**. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by a "responsible official" as defined by 326 IAC 2-7-1(34). **A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.**

(b) The ~~report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to~~ **address for report submittal is**:

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

(c) ...

~~(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 a certification that meets the requirements of 326 IAC 2-7-6(1) by the "responsible official' as defined by 326 IAC 2-7-1(34).~~

~~(e)~~ **(d)** ...

~~(f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C- General Record Keeping Requirements for any "project" [as defined in 326 IAC 2-2-1(qq) and 326 IAC 2-3-1(ll)] at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:~~

~~(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C - General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(i), by a significant amount [as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)] for that regulated NSR pollutant, and~~

~~(2) The emissions differ from the preconstruction projection as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(ii).~~

~~(g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:~~

~~(1) The name, address, and telephone number of the major stationary source.~~

~~(2) The annual emissions calculated in accordance with (c)(2) and (3) in Section C- General Record Keeping Requirements.~~

~~(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).~~

~~(4) Any other information that the Permittee deems fit to include in this report.~~

~~Reports required in this part shall be submitted to:~~

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

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C – General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll) at an existing Electric Utility Steam Generating Unit, then for that project the Permittee shall:

(1) Submit to IDEM, OAQ a copy of the information required by (c)(1) in Section C – General Record Keeping Requirements

(2) Submit a report to IDEM, OAQ within sixty (60) days after the end of each year during which records are generated in accordance with (d)(1) and (2) in Section C – General Record Keeping Requirements. The report shall contain all information and data describing the annual emissions for the emissions units during the calendar year that preceded the submission of report.

Reports required in this part shall be submitted to:

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

(f) The report for a project at an existing emissions unit other than Electric Utility Steam Generating Unit shall be submitted within sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C – General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3.

(4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction project.

Reports required in this part shall be submitted to:

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

~~(h)~~ **(g)** ...

Change No. 27 The Stratospheric Ozone Protection requirements have been revised as follows:

~~C.20~~ **C.19** Compliance with 40 CFR 82 and 326 IAC 22-1

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

Change No. 28 IDEM agrees to make the following changes throughout Section D of the permit:

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

Testing shall be conducted in accordance with **the provisions of 326 IAC 3-6 (Source Sampling Procedures).** Section C - Performance Testing **contains the Permittee's obligations with regard to the performance testing required by this condition**.

If abnormal emissions are observed, the Permittee shall take reasonable response steps ~~in accordance with Section C – Response to Excursions or Exceedances~~. 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 – Response to Excursions or Exceedances,~~ shall be considered a deviation from this permit. **Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.**

~~All records shall be maintained in accordance with~~ Section C - General Record Keeping Requirements~~, of this permit.~~ **contains the Permittee's obligations with regard to the record keeping required by this condition.**

A quarterly report of the _____ 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~~ **not later than thirty (30) days following the end of each calendar quarter**. The report submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34). **Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition**.

Change No. 29 Conditions D.1.4, D.2.4, D.3.2, and D.11.1, Sulfur Dioxide Emission Limitations, are revised as follows to clarify that the emission limitation is based on a calendar month average:

D.1.4 Sulfur Dioxide Emission Limitations (SO_2) [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-1.1-2(a)(1), sulfur dioxide emissions from Boiler 1 and Boiler 2 shall not exceed six and zero-tenths (6.0) pound per million British thermal units (lb/MMBtu)**, using a calendar month average**.

D.2.4 Sulfur Dioxide Emission Limitations [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-1.1-2(a)(1), sulfur dioxide emissions from Boiler 5 and Boiler 6 shall not exceed six and zero-tenths (6.0) pound per million Btu (lb/MMBtu)**, using a calendar month average**.

D.3.2 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 **(lb/MMBtu), using a calendar month average,** when combusting only distillate oil or a combination of only distillate oil and natural gas.

D.11.1 Sulfur Dioxide Emission Limitations [326 IAC 7-1.1]

Pursuant to Minor Source Modification 157-15944-00012, issued October 21, 2002, 326 IAC 7-1.1-2, and 326 IAC 7-2-1(c), the sulfur dioxide emissions from fuel combustion facilities shall not exceed five-tenths (0.5) pound per million Btu **(lb/MMBtu), using a calendar month average,** for distillate oil combustion.

Change No. 30 Conditions D.1.5, D.2.5, and D.3.4, Operation Standards, are removed because these requirements pertain to hazardous waste regulations.

~~D.1.5 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.2.5 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.3.4 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.~~

Change No. 31 Pursuant to 326 IAC 2-2-2(h), The emission units at Purdue University (including Boiler 1 and Boiler 2) are not subject to the requirements in 326 IAC 2-2-3 (Control technology review; requirements), 326 IAC 2-2-4 (Air quality analysis; requirements), and 326 IAC 2-2-7 (Additional analysis; requirements), because Purdue University is a nonprofit educational institution.

Section D.1 has been revised as follows:

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a ~~maximum~~ **nominal** 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~~ **nominal** capacity of 274 MMBtu/hr, with a multi-cyclone collector and ~~an electrostatic precipitator or~~ a multi-compartment baghouse 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).

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

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

D.1.1 Nitrogen Oxides Emission Limitation [326 IAC 2-2-**4**]

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 **Boiler** 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~~ **British thermal units (lb/MMBtu) of** 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~~ **British thermal units (lb/MMBtu)** heat input ~~(lb/MMBtu)~~.

Q = Total source maximum operating capacity rating in million ~~Btu~~ **British thermal units** 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~~ **Boiler 1 and Boiler 2**, Q = 555 MMBtu/hr, N = 2, and h = 200 feet.

D.1.3 Sulfur Dioxide Emission Limitations [326 IAC 2-2**-4**] ~~[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~~ **Boiler 1 and Boiler 2** shall be limited to 5.43 pounds per million ~~Btu~~ **British thermal units (lb/MMBtu)** of heat input and to a total of 26.5 tons from ~~both boilers~~ **Boiler 1 and Boiler 2** 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~~ **Boiler 1 and Boiler 2**, 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~~ **Boiler 1 and Boiler 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 Sulfur Dioxide Emission Limitations (SO_2) [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-1.1-2(a)(1), sulfur dioxide emissions from Boiler 1 and Boiler 2 shall not exceed six and zero-tenths (6.0) pound per million British thermal units (lb/MMBtu).

D.1.5 Retirement of Existing Operations [326 IAC 2-2]

Pursuant to 326 IAC 2-2, the Permittee shall permanently discontinue the operation of Boiler 1 within one hundred eighty (180) days of the startup date for either Boiler 6 or Boiler 7, whichever date is earlier.

~~D.1.4~~ **D.1.6** 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 **forty percent (**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~~ **emission control devices** 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.1.6~~ **D.1.7** 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 Boilers 1 and 2 and their emission control devices.~~ **A Preventive Maintenance Plan (PMP) is required for Boiler 1 and Boiler 2 and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.**

Compliance Determination Requirements

~~D.1.7~~ **D.1.8** 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~~ **Compliance** with the PM limitation for ~~Boilers 1 and 2~~ **Boiler 1 and Boiler 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~~ **the most recent** valid compliance demonstration. ~~Testing shall be conducted in accordance with Section C - Performance Testing.~~ **Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.**

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

~~D.1.8~~ **D.1.9** Particulate Control [326 IAC 2-7-6(6)] **[40 CFR 64]**

(a) Except as otherwise provided by statute or rule or in this permit, the multiclone and electrostatic precipitator (ESP) for Boiler 1 shall be in operation and control emissions at all times that the boiler, vented to that multiclone and ESP, is in operation.

(b) Except as otherwise provided by statute or rule or in this permit, the multiclone and ~~the ESP or a~~ baghouse for particulate control for Boiler 2 shall be in operation and control emissions at all times that the boiler, vented to that multiclone and ~~ESP or~~ baghouse, is in operation.

(c) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

~~D.1.9~~ **D.1.10** Continuous Emissions Monitoring [326 IAC 3-5] **[40 CFR 64]**

(a) Pursuant to 326 IAC 3-5-1**(c)**(2)(A) (Continuous Monitoring of Emissions), continuous emission monitoring systems **(CEMS)** for ~~Boilers 1 and 2~~ **Boiler 1 and Boiler 2** shall be calibrated, maintained, and operated for measuring opacity, which meet all applicable performance specifications of 326 IAC 3-5-2 **and 40 CFR 64**. **For Boiler 1 and Boiler 2, the COMS shall be in operation in accordance with 326 IAC 3-5 and 40 CFR Part 60 when fuel is being combusted in the associated boiler.**

(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~~ **40 CFR 60**.

D.1.11 Continuous Opacity Monitoring [326 IAC 3-5] [40 CFR 64]

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, 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 twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(c) Method 9 readings may be discontinued once a COMS is online.

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

~~D.1.10~~ **D.1.12** Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2**-1**] ~~[326 IAC 7-1.1-2]~~

(a) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions **from Boiler 1 and Boiler 2** do not exceed the equivalent of 5.43 pound per million ~~Btu~~ **British thermal units (lb/MMBtu) of** 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) 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 instead of the fuel sampling and analysis required in (b). [326 IAC 7-2-1(g)]

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

~~D.1.11 Monitoring: Multiclone [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]~~

~~(a) The ability of each multiclone to control particulate emissions from Boiler 1 and Boiler 2 shall be monitored at least once per day, 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 – Response to Excursions or Exceedances and Section C - 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 - Response to Excursions or Exceedances whenever the static pressure drop is outside of the normal operating range for the corresponding boiler steam load. A pressure drop reading that is normal range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~

D.1.13 Opacity Readings [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

(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 - Response to Excursions or Exceedances~~ 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. **Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.**

(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 - Response to Excursions or Exceedances,~~ 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 - Response to Excursions or Exceedances~~ 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, and adjustment of flue gas conditioning rate, and ~~ESP T-R sets or~~ the baghouse~~, whichever is used for controlling particulate emissions from Boiler 2,~~ being returned to service. **Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.**

(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 - Response to Excursions or Exceedances,~~ 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.

~~D.1.12~~ **D.1.14** Electrostatic Precipitator Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS:

(a) The ability of ~~each~~ **the** ESP to control particulate emissions from Boiler 1~~ and Boiler 2~~ shall be monitored once per day, 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 - Response to Excursions or Exceedances~~. **Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.** **A** voltage or current reading outside the normal range is not a deviation from this permit. **Failure to take response steps shall be considered a deviation from this permit.**

Boiler 1:

(1)	Primary voltage:	275 - 430 V
(2)	Secondary voltage:	29 - 45 kV
(3)	T-R set secondary current:	150 - 405 mA

~~Boiler 2:~~

~~(1)~~	~~Primary voltage:~~	~~210 - 380 V~~
~~(2)~~	~~Secondary voltage:~~	~~27 - 40 kV~~
~~(3)~~	~~T-R set secondary current:~~	~~200 - 420 mA~~

~~The Permittee is not required to record the primary and secondary voltages and the currents of the transformer-rectifier (T-R) sets for the ESP for Boiler 2, when the baghouse is in operation and controlling particulate emissions from Boiler 2.~~

~~D.1.14~~ **D.1.15 Baghouse** Parametric Monitoring **[326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]**

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS:

(a) The Permittee shall record the pressure drop across the baghouse used in conjunction with Boiler 2, at least once per day when the process 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 ~~3.0 and 9.0~~ **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 - Response to Excursions or Exceedances~~. **Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.** A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps ~~in accordance with Section C - Response to Excursions or Exceedances~~ shall be considered a deviation from this permit.

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

~~(c) The Permittee is not required to record the pressure drop across the baghouse for Boiler 2, when the ESP is in operation and controlling particulate emissions from Boiler 2.~~

~~D.1.15~~ **D.1.16** Broken or Failed Bag Detection

For a multi-compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

D.1.17 SO_2 Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)] [326 IAC 3-7-2] [326 IAC 3-7-3]

Whenever coal sampling is not being performed and the SO_2 continuous emission monitoring system (CEMS) is being utilized to demonstrate compliance with the 24-hour emission limit for SO_2 in Condition D.1.3(a):

If the SO_2 CEMS is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, fuel sampling shall be conducted as specified in 326 IAC 3-7-2(b). Fuel sample preparation and analysis shall be conducted as specified in 326 IAC 3-7-2(c), 326 IAC 3-7-2(d), and 326 IAC 3-7-2(e). Pursuant to 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.

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

~~D.1.16~~ **D.1.18** Record Keeping Requirements

(a) To document **the** compliance **status** 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~~ **Boiler 1 and Boiler 2**.

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

(b) To document **the** compliance **status** 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.1.6,** ~~D.1.7,~~ D.1.8, D.1.9, D.1.11, ~~D.1.12,~~ D.1.13, **D.1.14,** and ~~D.1.14,~~ **D.1.15,** the Permittee shall maintain records in accordance with (1) through ~~(4)~~ **(3)** 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~~ **Condition D.1.6**.

(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 Method 9 visible emission readings taken during any periods of COM downtime.

~~(4) All multiclone and ESP or baghouse parametric monitoring readings.~~

(c) To document the compliance status with Condition D.1.14, the Permittee shall maintain daily records of the primary and secondary voltages and the currents of the transformer-rectifier (T-R) sets for the ESP used to control particulate emissions from Boiler 1 whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.1.15, the Permittee shall maintain daily records of the pressure drop across the baghouse used to control particulate emissions from Boiler 2 whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

~~(c)~~ **(e)** To document **the** compliance **status** with SO_2 Conditions D.1.3~~ and D.1.10~~**, D.1.4, D.1.12, and D.1.17**, 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 ~~Condition~~ **Conditions** D.1.3 **and D.1.4**.

(1) All fuel sampling and analysis data, pursuant to 326 IAC 7-2 or 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) Daily fuel usage for each of ~~Boilers 1 and 2~~ **Boiler 1 and Boiler 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 or records sufficient to verify compliance with 326 IAC 3-5-6 for the continuous emissions monitoring system.~~

~~(e)~~ **(f)** ~~All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~ **Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.**

~~D.1.17~~ **D.1.19** 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~~ **not later than** thirty (30) days ~~after~~ **following** the end of ~~the quarter being reported~~ **each calendar quarter**. The report submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "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 ~~Btu~~ **British thermal units (lb/MMBtu)** 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~~ **not later than thirty (30) days following the end of each calendar quarter**. [326 IAC 7-2-1(c)(2]

The report submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "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~~ **Boiler 1 and Boiler 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~~ **not later than thirty (30) days following the end of each calendar quarter**. The report submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

(d) **Whenever coal sampling is not being performed and the SO_2 continuous emission monitoring system (CEMS) is being utilized to demonstrate compliance with the 24-hour emission limit for SO_2 in Condition D.1.3(a):**

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~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

Boiler 1 and 2 Natural Gas Usage - Part 70 Quarterly Report

Source Name:	Purdue University
Emission Unit Location:	**Purdue University,** Wade ~~Powerhouse~~**Utility Plant**, West Lafayette, ~~IN~~ **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.:	T 157-7340-00012
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

Change No. 32 Pursuant to 326 IAC 2-2-2(h), The emission units at Purdue University (including Boiler 5) are not subject to the requirements in 326 IAC 2-2-3 (Control technology review; requirements), 326 IAC 2-2-4 (Air quality analysis; requirements), and 326 IAC 2-2-7 (Additional analysis; requirements), because Purdue University is a nonprofit educational institution.

Section D.2 has been revised as follows to update requirements pertaining to Boiler 5 and to include references and requirements for the new Boiler 6:

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(c) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation completed in 1991, with a ~~design~~ **nominal** 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).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 5 is considered an affected source.

(d) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 6 is considered an affected source.

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

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

D.2.1 ~~Construction Permit Limitations~~ **Boiler 5 PSD Emission Limits** [326 IAC 2**-2-4**] ~~[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 **from Boiler 5** shall not exceed:

(1) 0.9 pounds per million ~~Btu~~ **British thermal units (lb/MMBtu)** of heat input based on a 30-day rolling weighted average basis, and

(2) 1.1 pounds per million ~~Btu~~ **British thermal units (lb/MMBtu)** of heat input based on a block 24-hour average basis.

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

~~(c)~~**(b)** Carbon monoxide emissions **from Boiler 5** shall not exceed 0.27 pounds per million ~~Btu~~ **British thermal units (lb/MMBtu)** of heat input.

~~(d) The rate of heat input into the boiler shall not exceed 279 million Btu 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 PSD Minor Limits [326 IAC 2-2]

(a) CO emissions from Boiler 6 shall not exceed 214.17 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) NO_X emissions from Boiler 6 shall not exceed 242 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(c) PM emissions from Boiler 6 shall not exceed 36.30 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(d) PM_{10} emissions from Boiler 6 shall not exceed 169.40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(e) SO_2 emissions from Boiler 6 shall not exceed 1,379.40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(f) Be emissions from Boiler 6 shall not exceed 0.02569 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(g) H_2SO_4 emissions from Boiler 6 shall be less than 7.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits combined with the potential to emit Be, CO, NO_X, PM, PM_{10}, SO_2, and H_2SO_4, emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than 0.0004 tons per year of Be, less than one hundred (100) tons per year of CO, less than forty (40) tons per year of NO_X, less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, less than forty (40) tons per year of SO_2, and less than seven (7) tons per year of H_2SO_4. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

D.2.3 HAP Minor Limits [326 IAC 2-4.1-1] [CAA Section 112(g)]

HCl emissions from Boiler 6 shall be less than 10.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with this emission limits combined with the potential to emit HCl and total HAP emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than ten (10) tons per year of HCl and less than twenty-five (25) tons per year of total HAP emissions. Therefore the requirements of 326 IAC 2-4.1-1, Major Sources of Hazardous Air Pollutants (HAP), and Section 112(g) of the Clean Air Act (CAA) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

D.2.4 Sulfur Dioxide Emission Limitations [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-1.1-2(a)(1), sulfur dioxide emissions from Boiler 5 and Boiler 6 shall not exceed six and zero-tenths (6.0) pound per million British thermal units (lb/MMBtu).

~~D.2.4~~ **D.2.5** 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 **forty percent (**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) When removing ashes from the fuel bed or furnace in a boiler or blowing tubes, opacity may exceed forty percent (40%); however, opacity shall not exceed sixty percent (60%) for any six (6)-minute averaging period and opacity in excess of forty percent (40%) shall not continue for more than one (1) six (6)-minute averaging period in any sixty (60)-minute period. The averaging periods shall not be permitted for more than three (3) six (6)-minute averaging periods in a twelve (12) hour period.

~~(b)~~ **(c)** 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.2.6~~ **D.2.6** 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 Boiler 5 and its emission control device.~~ **A Preventive Maintenance Plan (PMP) is required for Boiler 5 and Boiler 6 and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.**

Compliance Determination Requirements

~~D.2.7~~ **D.2.7** Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) ~~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~~ **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)~~**(b)** shall be determined by performance stack tests conducted using methods as approved by the Commissioner.

(b) Not later than 180 days after startup of Boiler 6, compliance with the Boiler 6 CO, PM, Be, H_2SO_4, and HCl limitations in Conditions D.2.2 and D.2.3 shall be determined by performance stack tests conducted using methods as approved by the Commissioner.

(c) The Permittee shall perform PM_{10} and $PM_{2.5}$ testing of the WADE 01 Baghouse stack not later than 180 days after startup of Boiler 6 or 180 days after final promulgation of the new or revised condensable PM test method(s) referenced in the U.S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers ($PM_{2.5}$), signed on May 8th, 2008, whichever date is later. This testing shall be conducted utilizing methods as approved by the Commissioner. PM_{10} and $PM_{2.5}$ includes filterable and condensable PM.

(d) This testing shall be repeated by December 31 of every second calendar year following ~~this~~ **the most recent** valid compliance demonstration. ~~Testing shall be conducted in accordance with Section C - Performance Testing.~~ **Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.**

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

~~D.2.8~~ **D.2.8** ~~Construction Permit~~ Compliance Determination Requirements [326 IAC 2-**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.~~ **Except as otherwise provided by statute, rule, or this permit, circulating fluidized bed boilers with alkali injection shall be used as needed to maintain compliance with the sulfur dioxide emission limitations in Conditions D.2.1, D.2.2, and D.2.4 for Boiler 5 and Boiler 6.**

(b) Compliance with the sulfur dioxide emission limits in Conditions D.2.1(a)(1) and **D.2.4 for Boiler 5** ~~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) **for Boiler 5** 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 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) The Permittee shall determine compliance with the SO_2, and NO_X emission limitations for Boiler 6 in D.2.2 (b), and (e) based on CEM data obtained pursuant to Condition D.2.9 - Continuous Emission Monitoring. The daily CEM data shall be used to calculate the 12 month rolling total and shall be rolled on a monthly basis.

(e) The following equation shall be used for demonstrating compliance with the CO, PM, PM_{10}, Be, and H_2SO_4 limits for Boiler 6 in D.2.2(a), (c), (d), (f) and (g):

E = U x HV x EF

Where:

E = Pollutant Emissions, tons/month
U = Coal Usage, tons coal/month
HV = Coal Heating Value, MMBtu/ton coal; Btu/lb x 2000 lb/ton/1,000,000 Btu/MMBtu

EF = Pollutant emission rate, ton/MMBtu; lb/MMBtu / 2000 lb/ton
EF_{CO} = 0.177 lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{PM} = 0.03 lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{PM10} = 0.14 lb/MMBtu or other value as determined during the last valid compliance demonstration
$EF_{PM2.5}$ = 0.14 lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{Be} = 2.12×10^{-5} lb/MMBtu or other value as determined during the last valid compliance demonstration
EF_{H2SO4} = 0.0055 lb/MMBtu or other value as determined during the last valid compliance demonstration

D.2.9 Compliance Determination Requirements [326 IAC 2-4.1] [CAA Section 112(g)]

The following equation shall be used for demonstrating compliance with the HCl limits for Boiler 6 in D.2.3:

E = U x HV x EF

Where:
E = Pollutant Emissions, tons/month
U = Coal Usage, tons coal/month
HV = Coal Heating Value, MMBtu/ton coal; Btu/lb x 2000 lb/ton/1,000,000 Btu/MMBtu
EF = Pollutant emission rate, ton/MMBtu; lb/MMBtu / 2000 lb/ton
EF_{HCl} = 0.00826 lb/MMBtu or other value as determined during the last valid compliance demonstration

~~D.2.10~~**D.2.10** Continuous Emissions Monitoring [326 IAC 3-5] ~~[326 IAC 12] [40 CFR 60, Subpart Db] [326 IAC 2-2]~~ **[40 CFR 64]**

~~(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.~~

(a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), opacity, SO_2, and NO_X continuous emission monitoring systems (CEMS) for Boiler 5 shall be calibrated, maintained, and operated for measuring opacity, SO_2, and NO_X which meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60. For Boiler 5, the Continuous Opacity Monitoring System (COMS) shall be in operation in accordance with 326 IAC 3-5 and 40 CFR Part 60 when fuel is being combusted in the boiler.

(b) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), opacity, SO_2, and NO_X continuous emission monitoring systems (CEMS) for Boiler 6 shall be calibrated, maintained, and operated for measuring opacity, SO_2, and NO_X which meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60. For Boiler 6, the Continuous Opacity Monitoring System (COMS) shall be in operation in accordance with 326 IAC 3-5 and 40 CFR Part 60 when fuel is being combusted in the boiler.

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

(c) - (e) *See also Section E Changes.*

~~(f)~~ **(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.2.11 Continuous Opacity Monitoring [326 IAC 3-5] [40 CFR 64]

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, 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 twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(c) Method 9 readings may be discontinued once a COMS is online.

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

~~D.2.11~~ **D.2.12** ~~Operation of Baghouse~~ **Particulate Control** ~~[326 IAC 2-7-6(6)]~~ **[40 CFR 64]**

(a) Except as otherwise provided by statute or rule or in this permit, the ~~baghouse~~ **respective baghouses** shall be operated at all times that Boiler 5 **and Boiler 6 are** ~~is~~ in operation **and fuel is being combusted in the respective boiler**.

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

D.2.13 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-2-1(c), the Permittee shall demonstrate that the sulfur dioxide emissions from Boiler 5 and Boiler 6 do not exceed the equivalent of 6.0 pound per million British thermal units (lb/MMBtu) of 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) 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 instead of the fuel sampling and analysis required in (b). [326 IAC 7-2-1(g)]

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

D.2.14 Opacity Readings [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) For Boiler 5:

(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 such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back below twenty percent (20%). Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Examples of expected response steps include, but are not limited to, boiler loads being reduced, adjustment of flue gas conditioning rate, and the baghouse 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 - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) For Boiler 6:

(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 such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back below twenty percent (20%). Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Examples of expected response steps include, but are not limited to, boiler loads being reduced, and adjustment of flue gas conditioning rate, and the baghouse 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 shall be considered a deviation from this permit.

~~D.2.12 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]~~

~~(a) The Permittee shall record the drop across the Boiler 5 baghouse, at least once per day when the boiler 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 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 - Response to Excursions or Exceedances.~~

~~(b) The instrument used for determining the pressure shall comply with Section C - 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.2.15 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS:

(a) The Permittee shall record the pressure drop across the baghouse used in conjunction with Boiler 5, at least once per day when the process 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 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(b) The Permittee shall record the pressure drop across the baghouse used in conjunction with Boiler 6, at least once per day when the process 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 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(c) A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, and shall be calibrated in accordance with the manufacturer's specifications.

~~D.2.13 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]~~

~~(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).~~

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

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

~~D.2.14~~ **D.2.16** SO_2 Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)] **[326 IAC 3-7-2] [326 IAC 3-7-3] [40 CFR 64]**

~~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.~~

Whenever the SO_2 continuous emission monitoring system for Boiler 5 or Boiler 6 is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall:

(a) 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.

(b) Conduct fuel sampling as specified in 326 IAC 3-7-2(b). Fuel sample preparation and analysis shall be conducted as specified in 326 IAC 3-7-2(c), 326 IAC 3-7-2(d), and 326 IAC 3-7-2(e). Pursuant to 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.

D.2.17 NO_X Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)] [326 IAC 3-7-2] [326 IAC 3-7-3]

Whenever the NO_X continuous emission monitoring system for Boiler 5 or Boiler 6 is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall operate Boiler 6 in a manner consistent with best combustion practices.

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

~~D.2.15~~ **D.2.18** Record Keeping Requirements

(a) To document **the** compliance **status** 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.2.5, D.2.7,** ~~D.2.8,~~ D.2.10, ~~D.2.12, and D.2.13,~~ **D.2.11,** the Permittee shall maintain records in accordance with (1) through (3) 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~~ **D.2.5**.

(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 Method 9 visible emission readings taken during any periods of COM downtime.

(b) To document **the** compliance **status** with the SO_2 requirements in Conditions D.2.1, D.2.2**, D.2.4**, D.2.8, ~~D.2.9,~~ D.2.10, **D.2.13,** and ~~D.2.14,~~ **D.2.16,** 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.2.8, D.2.9~~, and ~~D.2.10~~ **D.2.4**. 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~~,~~ **and** 326 IAC 7-2-1(g)~~, and 40 CFR 60.45~~.

(2) All startup periods and shutdown periods **for Boiler 5**.

(3) All boiler load, fuel sampling and analysis, and limestone injection rate data collected for SO_2 CEMS downtime, in accordance with Conditions ~~D.2.10~~ **D.2.9** and D.2.14.

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

(c) To document **the** compliance **status** with the NO_X requirements in Conditions D.2.2**, D.2.8,** and D.2.10, 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~~ **Condition** D.2.2~~ and D.2.10~~.

(d) To document the compliance status with the CO requirements in Conditions D.2.1, D.2.2, D.2.7, and D.2.8, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the CO limits in Conditions D.2.1 and D.2.2.

(1) Data and results from the most recent stack test. (Boiler 5 and Boiler 6)

(2) Monthly coal usage. (Boiler 6)

(3) Coal higher heating value (HHV). (Boiler 6)

(e) To document the compliance status with the Be and H_2SO_4 requirements in Conditions D.2.2, D.2.7, and D.2.8, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the Be and H_2SO_4 limits in Condition D.2.2.

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

(2) Monthly coal usage.

(3) Coal higher heating value (HHV).

(f) **To document the compliance status with the HCl requirements in Conditions D.2.3, D.2.7, and D.2.9, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the HCl limit in Condition D.2.3.**

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

(2) **Monthly coal usage.**

(3) **Coal higher heating value (HHV).**

~~(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)~~ **(g)** ~~All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~ **Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.**

~~D.2.16~~ **D.2.19** Reporting Requirements

(a) A quarterly report of opacity exceedances and a quarterly summary of the information to document **the** compliance **status** with Conditions D.2.1, **D.2.2,** D.2.3, **D.2.4,** ~~D.2.8, D.2.9,~~ and ~~D.2.10~~ **D.2.5** 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~~ **not later than thirty (30) days following the end of each calendar quarter**. The report submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

(b) Pursuant to Condition D.2.8(c) regarding the block 24 hour average SO_2 emission limitation **for Boiler 5**, 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)~~ *See Section E Changes.*

~~(c)~~ *See Section E Changes.*

~~(d)~~ **(c)** 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.

(d) **Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.**

The ~~report~~ **reports** submitted by the Permittee ~~does~~ require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

Boiler 6 Be Emissions - Part 70 Quarterly Report

Facility: **Boiler 6**
Parameter: **Be Emissions**
Limit: **not more than 0.02569 tons per 12 consecutive month period with compliance determined at the end of each month.**

Boiler 6 CO Emissions - Part 70 Quarterly Report

Facility: **Boiler 6**
Parameter: **CO Emissions**
Limit: **not more than 214.17 tons per 12 consecutive month period with compliance determined at the end of each month.**

Boiler 6 NO_X Emissions - Part 70 Quarterly Report

Facility: **Boiler 6**
Parameter: **NO_X Emissions**
Limit: **not more than 242.00 tons per 12 consecutive month period with compliance determined at the end of each month.**

Boiler 6 PM Emissions - Part 70 Quarterly Report

Facility: **Boiler 6**
Parameter: **PM Emissions**
Limit: **not more than 36.30 tons per 12 consecutive month period with compliance determined at the end of each month.**

Boiler 6 PM_{10} Emissions - Part 70 Quarterly Report

Facility: **Boiler 6**
Parameter: **PM_{10} Emissions**
Limit: **not more than 169.40 tons per 12 consecutive month period with compliance determined at the end of each month.**

Boiler 6 $PM_{2.5}$ Emissions - Part 70 Quarterly Report

Facility: **Boiler 6**
Parameter: **$PM_{2.5}$ Emissions**
Limit: **not more than 169.40 tons per 12 consecutive month period with compliance determined at the end of each month.**

Boiler 6 SO_2 Emissions - Part 70 Quarterly Report

Facility: **Boiler 6**
Parameter: **SO_2 Emissions**
Limit: **not more than 1,379.40 tons per 12 consecutive month period with compliance determined at the end of each month.**

Boiler 6 H_2SO_4 Emissions - Part 70 Quarterly Report

Facility: **Boiler 6**
Parameter: **H_2SO_4 Emissions**
Limit: **less than 7.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

Boiler 6 HCl Emissions - Part 70 Quarterly Report

Facility: **Boiler 6**
Parameter: **HCl Emissions**
Limit: **less than 10.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

Change No. 33 Section D.3 has been revised as follows:

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

~~(d)~~ **(b)** 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~~ **nominal** capacity of ~~163,000 pounds of steam/216~~ **286** MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the ~~Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units~~ **Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971** NSPS (40 CFR 60, Subpart D), Boiler 3 is considered an affected source.

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

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

~~(e) The usage of distillate fuel oil in Boiler 3 shall be limited to 500,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~(f) Any change in the type of fuel oil used in Boiler 3, other than distillate fuel oil and natural gas, must be approved by IDEM, OAQ.~~

~~D.3.2~~ **D.3.1** 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 **forty percent (**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) When removing ashes from the fuel bed or furnace in a boiler or blowing tubes, opacity may exceed forty percent (40%); however, opacity shall not exceed sixty percent (60%) for any six (6)-minute averaging period and opacity in excess of forty percent (40%) shall not continue for more than one (1) six (6)-minute averaging period in any sixty (60)-minute period. The averaging periods shall not be permitted for more than three (3) six (6)-minute averaging periods in a twelve (12) hour period.

~~(b)~~ **(c)** 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~~ **D.3.2** 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~~ **British thermal units (lb/MMBtu)** when combusting only distillate oil or a combination of only distillate oil and natural gas.

~~D.3.4 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [40 CFR 279] [329 IAC 13]~~

See Above Changes

~~D.3.5 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]~~

See Section E Changes

~~D.3.6~~ **D.3.3** 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 Boiler 3 and any emission control devices.~~ **A Preventive Maintenance Plan (PMP) is required for Boiler 3 and any emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.**

Compliance Determination Requirements

~~D.3.7 Testing Requirements [326 IAC 2-7-6(1), (3), (6)] [326 IAC 2-1.1-11] [40 CFR 60.8] [40 CFR 60.46]~~

See Section E Changes.

~~D.3.8~~ **D.3.4** Continuous Emissions Monitoring [326 IAC 3-5] ~~[326 IAC 12] [40 CFR 60, Subpart D] [326 IAC 2-2]~~ **[40 CFR 64]**

(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 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~~ **and 40 CFR 64**.

~~(1) - (3)~~ *See Section E Changes.*

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

~~(b)~~ *See Section E Changes.*

(c) - (d) ...

~~(e)~~ *See Section E Changes.*

~~D.3.9~~ **D.3.5** 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.~~ *See also Section E Changes.*

~~(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.3.2** ~~D.3.1(c) and D.3.3~~, using a calendar month average.

~~(c)~~ **(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.

~~(d)~~ **(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)]

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

~~D.3.10~~ **D.3.6** Record Keeping Requirements

(a) To document **the** compliance **status** with the ~~particulate matter and~~ opacity requirements in ~~Conditions~~ **Condition** D.3.1~~, D.3.2, D.3.7, and D.3.8~~, the Permittee shall maintain records in accordance with (1) **and (2)** ~~through (5)~~ below. Records and shall be complete and sufficient to establish compliance with the ~~PM and~~ opacity limits in ~~Conditions~~ **Condition** D.3.1~~ and D.3.2~~.

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

(2) ~~Actual distillate fuel oil usage in Boiler 3 per month since last compliance determination period.~~

~~(3) Calendar dates covered in the compliance determination period;~~

~~(4)~~ The **opacity exceedances from COMS data or** results of all ~~once per day~~ **daily** Method 9 visible emission (VE) readings ~~due to opacity exceeding ten percent (10%)~~.

~~(5) Hours of operation on fuel oil.~~

(b) To document **the** compliance **status** with the SO_2 requirements in Conditions ~~D.3.1, D.3.3, D.3.7, D.3.8, and D.3.9~~ **D.3.2 and D.3.5**, 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~~ **Condition D.3.2**.

(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) ~~All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~ **Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.**

~~D.3.11~~ **D.3.7** Reporting Requirements

~~(a)~~ *See Section E Changes.*

~~(b)~~ *See Section E Changes*

~~(c)~~ *See Section E Changes.*

~~(d)~~ *See Section E Changes.*

~~(e) 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 Btu 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).~~

~~(f)~~ 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)~~ **(a)** date of downtime;

~~(2)~~ **(b)** time of commencement;

~~(3)~~ **(c)** duration of each downtime;

~~(4)~~ **(d)** reasons for each downtime; and

~~(5)~~ **(e)** nature of system repairs and adjustments.

The report submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

Change No. 34 New Section D.4 has been added as follows to include references and requirements for the new Boiler 7:

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(f) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 7 is considered an affected source.

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

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

D.4.1 Boiler 7 PSD Minor Limits [326 IAC 2-2]

(a) The natural gas usage for Boiler 7 shall not exceed 1850 million cubic feet (MMCF) per twelve (12) consecutive month period. Compliance with this limit shall be determined at the end of each month.

(b) CO emissions from Boiler 7 shall not exceed 0.0824 pounds per million British thermal units (lb/MMBtu) of heat input.

(c) NO_X emissions from Boiler 7 shall not exceed 0.049 pounds per million British thermal units (lb/MMBtu) of heat input.

(d) PM emissions from Boiler 7 shall not exceed 0.0019 pounds per million British thermal units (lb/MMBtu) of heat input.

(e) PM_{10} emissions from Boiler 7 shall not exceed 0.0075 pounds per million British thermal units (lb/MMBtu) of heat input.

(f) $PM_{2.5}$ emissions from Boiler 7 shall not exceed 0.0075 pounds per million British thermal units (lb/MMBtu) of heat input.

(g) SO_2 emissions from Boiler 7 shall not exceed 0.0006 pounds per million British thermal units (lb/MMBtu) of heat input.

Compliance with these emission limits combined with the potential to emit CO, NO_X, PM, PM_{10}, $PM_{2.5}$, and SO_2 emissions from all other emission units associated with the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than one hundred (100) tons per year of CO, less than forty (40) tons per year of NO_X, less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, less than ten (10) tons per year of $PM_{2.5}$, and less than forty (40) tons per year of SO_2. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

D.4.2 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.4.1 shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require the certification by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

Boiler 7 Natural Gas Usage - Part 70 Quarterly Report

Facility:	**Boiler 7**
Parameter:	**natural gas usage**
Limit:	**not more than 1850 MMCF per 12 consecutive month period with compliance determined at the end of each month.**

Change No. 35 Original Section D.4 (now D.5) has been revised as follows to update requirements for the coal storage, handling, and processing operations:

SECTION ~~D.4~~ D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

~~(e)~~ **(g)** One (1) coal storage and handling system identified as COAL Segment 1, installed in 1960, with a ~~maximum~~ **nominal** 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~~ **Utility Plant**. Coal is fed to the bunkers for ~~Boilers 1 and 2,~~ **Boiler 1, Boiler 2, and Boiler 6,** and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the ~~Boiler 1 and Boiler 2~~ **Boiler 1, Boiler 2, and Boiler 6** bunkers are controlled by a RotoClone for each ~~bunker~~ **of the two (2) bunkers.** ~~and~~ **The bunker for Boiler 1 and Boiler 6** exhaust to stack CB1**. The bunker for Boiler 2 exhausts to** ~~and~~ CB2~~, respectively~~. COAL Segment 1 has been retained as a backup system for COAL Segment 2.

~~(f)~~ **(h)** One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a ~~maximum~~ **nominal** capacity of 107 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 **and one (1) Boiler 6 coal pre-crusher**, 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~~ **Utility Plant**, 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,~~ **Boiler 1, Boiler 2, and Boiler 6,** and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the ~~Boiler 1 and Boiler 2~~ **Boiler 1, Boiler 2, and Boiler 6** bunkers are controlled by a RotoClone for each ~~bunker~~ **of the two (2) bunkers.** ~~and~~ **The bunker for Boiler 1 and Boiler 6** exhaust to stack CB1**. The bunker for Boiler 2 exhausts to** ~~and~~ CB2~~, respectively~~.

(i) One (1) outdoor coal storage pile area identified as COAL PILE 1, permitted in 1960, with particulate matter emissions exhausting to the atmosphere.

~~(g)~~ **(j)** One (1) coal preparation system for Boiler 5, with installation ~~started in 1989 or 1990 and~~ completed in 1991, with a ~~maximum~~ **nominal** capacity of 12.68 tons/hr, including: **one (1) enclosed 125 ton/hr Redler conveyor with one (1) enclosed pre-crusher (both serving in a back-up capacity),** one (1) **150 ton/hr** enclosed **belt conveyor and** pre-crusher **with installation completed in 2009. Both lines feed into**~~,~~ one (1) coal storage **bunker,** ~~silo (aka coal storage bunker) with a baghouse exhausting to stack CB5;~~ two (2) weigh belt feeders; and two (2) enclosed crushers **with emission directed to a baghouse exhausting to stack CB5**.

Under the Standards of Performance for Coal Preparation Plants NSPS (40 CFR 60, Subpart Y), the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 are considered affected sources.

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

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

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

~~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.5.1 PSD Minor Limits for Coal Storage and Handling [326 IAC 2-2]

(a) Total PM emissions from the coal storage and handling systems identified as COAL Segment 1 and COAL Segment 2 shall not exceed 8.0 tons of PM per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM_{10} emissions from the coal storage and handling systems identified as COAL Segment 1 and COAL Segment 2 shall not exceed 8.0 tons of PM_{10} per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) $PM_{2.5}$ emissions from the coal storage and handling systems identified as COAL Segment 1 and COAL Segment 2 shall not exceed 1.5 tons of $PM_{2.5}$ per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits combined with the potential to emit PM, PM_{10}, and $PM_{2.5}$ emissions from all other emission units associated with this modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including coal storage and handling systems, will limit the potential to emit from this modification to less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, and less than ten (10) tons per year of $PM_{2.5}$. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including coal storage and handling systems.

Compliance with these emission limits combined with the potential to emit PM and PM_{10} emissions from all other emission units associated with the 1996 modification to add COAL Segment 2, will limit the potential to emit from the 1996 modification to less than twenty-five (25) tons per year of PM and less than fifteen (15) tons per year of PM_{10}. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the 1996 modification to add COAL Segment 2.

~~D.4.3~~ **D.5.2** 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 **(lb/hr)** when operating at a process weight rate of 110 tons per hour **(ton/hr)**, and the allowable particulate emission rate from the COAL Segment 2 shall not exceed 51.96 pounds per hour **(lb/hr)** when operating at a process weight rate of 107 tons per hour **(ton/hr)**. ~~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 **(lb/hr)** shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour **(lb/hr)**; and
P = process weight rate in tons per hour **(ton/hr)**.

(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 **(lb/hr)** when operating at a process weight rate of 12.68 tons per hour **(ton/hr)**. ~~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 **(lb/hr)** shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour **(lb/hr);** and
P = process weight rate in tons per hour **(ton/hr)**.

~~D.4.5~~ **D.5.3** 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.~~ **A Preventive Maintenance Plan (PMP) is required for these facilities and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.**

Compliance Determination Requirements

~~D.4.8~~ **D.5.4 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 Conditions ~~D.4.1, D.4.2, and D.4.3~~ **D.5.1 and D.5.2**, 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.

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

D.5.5 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the PM, PM_{10}, and $PM_{2.5}$ limits for COAL Segment 1 and COAL Segment 2 in D.5.1:

$$E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right)$$

Where:

E = Pollutant Emissions, tons/month
U = Coal Handled, tons coal/month
EF = Uncontrolled pollutant emission rate, lb/ton coal
CE = Control device efficiency, %
(for baghouses, CE = 99%; for rotoclones / multiclones, CE = 50%)
EF_{PM} = 0.862 lb/ton
EF_{PM10} = 0.408 lb/ton
$EF_{PM2.5}$ = 0.062 lb/ton

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

~~D.4.9~~ **D.5.6** Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

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

(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.

(f) ~~If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.~~ **If abnormal emissions are observed, the Permittee shall take reasonable response steps. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.**

~~D.4.10~~ **D.5.7** Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

(a) The Permittee shall record the pressure drop across each of the baghouses used in conjunction with the coal transfer drop points at least once per ~~shift~~ **week** when coal is being transferred. When for any one reading, the pressure drop across baghouse CV1 or CV3 is outside the normal range of 4.0 and 10.0 inches of water or a range established during the latest stack test, or the pressure drop across baghouse CV2 is outside the normal range of 5.0 to 12.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps ~~in accordance with Section C-Response to Excursions or Exceedances~~. **Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.** A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps ~~in accordance with Section C - Response to Excursions or Exceedances,~~ shall be considered a deviation from this permit.

(b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, 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~~ **D.5.8** Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

~~D.4.12~~ **D.5.9** RotoClone Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

In the event that RotoClone failure has been observed~~:~~

~~The~~ **, 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 - Response to Excursions or Exceedances,~~ 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.4.13~~ **D.5.10** Record Keeping Requirements

(a) To document the compliance status with the PM, PM_{10}, and $PM_{2.5}$ requirements in Conditions D.5.1, and D.5.5, the Permittee shall maintain monthly records of the amount of coal handled. Records shall be complete and sufficient to establish compliance with the PM, PM_{10}, and $PM_{2.5}$ limits in Condition D.5.1.

~~(a)~~**(b)** To document **the** compliance **status** with ~~conditions D.4.1, D.4.2, D.4.3, and D.4.9~~ **Condition D.5.6**, the Permittee shall maintain **weekly** records of the visible emission notations of the coal unloading and coal transfer exhaust points. **The Permittee shall include in its weekly record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (i.e., the process did not operate that week).**

~~(b)~~**(c)** To document **the** compliance **status** with Condition ~~D.4.10~~ **D.5.7** the Permittee shall maintain **weekly** records of the total static pressure drop across each baghouse. **The Permittee shall include in its weekly record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (i.e., the process did not operate that week).**

~~(c)~~**(d)** ~~All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~ **Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.**

D.5.11 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.5.1 shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

Coal Handling PM Emissions - Part 70 Quarterly Report

Facility:	**Coal Handling Operations**
Parameter:	**PM Emissions**
Limit:	**not more than 8.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

Coal Handling PM_{10} Emissions - Part 70 Quarterly Report

Facility:	**Coal Handling Operations**
Parameter:	**PM_{10} Emissions**
Limit:	**not more than 8.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

Coal Handling $PM_{2.5}$ Emissions - Part 70 Quarterly Report

Facility:	**Coal Handling Operations**
Parameter:	**$PM_{2.5}$ Emissions**
Limit:	**not more than 1.5 tons per 12 consecutive month period with compliance determined at the end of each month.**

Change No. 36 Section D.5 has been revised as follows to remove references to Boiler 1 and update requirements for the coal storage, handling, and processing operations. Additionally, Sections D.5 and D.6 both pertain to ash handling; therefore, these two sections have been combined into a new Section D.5:

SECTION ~~D.5~~ D.6 FACILITY CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

~~(h)~~ **(k)** One (1) pneumatic ash handling system for fly ash and bottom ash from ~~Boilers~~ **Boiler** 1 and **Boiler** 2, identified as ASH Segment 1, with a ~~maximum~~ **nominal** capacity of 14 tons per hour **(ton/hr)**, installed in approximately 1960 and modified in 2002. Ash/particulate matter collected from the primary, secondary and tertiary (baghouse) collection units are 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.

(l) One (1) pneumatic ash handling system for fly ash and bottom ash from Boiler 5 and Boiler 6, identified as ASH Segment 2, installed in 1991 and modified in 2002, exhausting to stacks ASH5A and ASH5B, with a nominal capacity of 20 tons/hr, with dust from ash transfer to the storage silo controlled by primary and secondary separator with tertiary baghouse filter, ASH5D. Ash is transferred from the silo to trucks at a nominal 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, ASH5C.

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

Emission Limitations and Standards [326 IAC 2-7-5(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.6.1 PSD Minor Limit for Ash Segment 1 [326 IAC 2-2-1]

Emissions from the ash handling equipment included in Ash Segment 1 associated with Boiler 1 and Boiler 2 shall be limited at all times the unit is handling ash as follows:

(a) Particulate matter (PM) emissions shall not exceed 5.71 pounds per hour (lb/hr).

(b) PM_{10} emissions shall not exceed 3.42 pounds per hour (lb/hr).

Compliance with these emission limits will limit the potential to emit from the modification to add the ash handling system identified as Ash Segment 1 to less than twenty-five (25) tons per year of PM and fifteen (15) tons per year of PM_{10}. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add the ash handling system identified as Ash Segment 1.

D.6.2 PSD Minor Limits for Ash Segment 2 [326 IAC 2-2]

(a) Total PM emissions from the ash handling equipment included in Ash Segment 2 associated with Boiler 5 and Boiler 6 shall be limited at all times the unit is handling ash to not exceed 6.0 tons of PM per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM_{10} emissions from the ash handling equipment included in Ash Segment 2 associated with Boiler 5 and Boiler 6 shall be limited at all times the unit is handling ash to not exceed 3.0 tons of PM_{10} per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) $PM_{2.5}$ emissions from the ash handling equipment included in Ash Segment 2 associated with Boiler 5 and Boiler 6 shall be limited at all times the unit is handling ash to not exceed 3.0 tons of $PM_{2.5}$ per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits combined with the potential to emit PM, PM_{10}, and $PM_{2.5}$ emissions from all other emission units associated with this modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including ash handling operations, will limit the potential to emit from this modification to less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, and less than ten (10) tons per year of $PM_{2.5}$. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including ash handling operations.

~~D.5.2~~ **D.6.3** Particulate [326 IAC 6-3-2]

(a) 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 **(lb/hr)** when operating at a process weight rate of 14 tons per hour **(ton/hr)**.

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the pneumatic ash handling system identified as ASH Segment 2 shall not exceed 30.51 pounds per hour (lb/hr) when operating at a process weight rate of 20 tons per hour (ton/hr).

~~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 **(lb/hr)** shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour **(lb/hr);** and
P = process weight rate in tons per hour **(ton/hr).**

(c) Pursuant to 326 IAC 6-3-2(e)(3) (Particulate Emission Limitations for Manufacturing Processes), for the ash unloading at the nominal throughput rate of 300 tons per hour for Ash Segment 2, 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.5.3~~ **D.6.4** 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 the one (1) pneumatic ash handling system and its emission control devices.~~ **A Preventive Maintenance Plan (PMP) is required for the pneumatic ash handling systems identified as ASH Segment 1 and ASH Segment 2 and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.**

Compliance Determination Requirements

~~D.5.4~~ **D.6.5** 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 **for ASH Segment 1** 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.

(c) Except as otherwise provided by statute or rule or in this permit, in order to comply with Condition D.5.2 (Particulate) related to ASH Segment 2, 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.

(d) The filter module and canister filters for the ASH Segment 2 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.

D.6.6 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the PM, PM_{10}, and $PM_{2.5}$ limits for ASH Segment 2 in D.6.2:

$$E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right)$$

Where:

E = Pollutant Emissions, tons/month
U = Ash Handled, tons ash/month
EF = Uncontrolled pollutant emission rate, lb/ton ash
CE = Control device efficiency, %
(for baghouses, CE = 99%; for bin vents, CE = 99%)
EF_{PM} = 3.14 lb/ton
EF_{PM10} = 1.10 lb/ton

$EF_{PM2.5}$ = 1.10 lb/ton

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

~~D.5.5~~ **D.6.7** Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

(a) Visible Emissions Notations:

~~(a)~~**(1)** Visible emission notations of the ASH1 and AB1 exhaust stacks shall be performed once per day during normal daylight operations and when the silo is receiving ash. ~~A trained employee shall record whether emissions are normal or abnormal.~~

~~(b)~~**(2)** Visible emission notations of the ash truck loading system **for ASH Segment 1** shall be performed once per day during normal daylight operations when the ash trucks are receiving ash.

(3) Visible emission notations for ASH Segment 2 of the ASH5A and ASH5B exhaust stacks shall be performed once per day during normal daylight operations when transferring ash.

(4) Visible emission notations for ASH Segment 2 of the exhaust vent, ASH5C, shall be performed once per day during normal daylight operations when transferring ash through the dry ash unloader.

A trained employee shall record whether emissions are normal or abnormal.

~~(c)~~ **(b)** For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

~~(d)~~ **(c)** In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

~~(e)~~ **(d)** A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

~~(f)~~ **(e)** ~~If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.~~ **If abnormal emissions are observed, the Permittee shall take reasonable response steps. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.**

~~D.5.6~~ **D.6.8** ~~Baghouse~~ Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

(a) The Permittee shall record the total static pressure drop across the baghouse **(ASH1)** and air filter **(AB1)** controlling emissions from the ash handling system **for ASH Segment 1**, at least once per day 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 1.0 to ~~6.0~~ **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 - Response to Excursions or Exceedances~~. **Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.**

(b) The Permittee shall record the pressure drop across the ash silo baghouse for ASH Segment 2 at least once per day 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 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(c) The Permittee shall record the pressure drop across the air filters controlling emissions from the ASH Segment 2 dry ash truck loading system (ASH5C), at least once per day 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. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps ~~in accordance with Section C - Response to Excursions or Exceedances,~~ shall be considered a deviation from this permit.

~~(b)~~ **(d)** The instrument used for determining the pressure shall comply with Section C - 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~~ **D.6.9** Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

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

~~D.5.8~~ **D.6.10** Record Keeping Requirements

(a) **To document the compliance status with the PM, PM_{10}, and $PM_{2.5}$ requirements in Conditions D.6.2, and D.6.6, the Permittee shall maintain monthly records of the amount of ash handled. Records shall be complete and sufficient to establish compliance with the PM, PM_{10}, and $PM_{2.5}$ limits in Condition D.6.2.**

~~(a)~~ **(b)** To document **the** compliance **status** with ~~Conditions D.5.1, D.5.2, and D.5.5~~ **Condition D.6.7**, the Permittee shall maintain **daily** records of the visible emission notations of ~~the ash silo unloading station, and the baghouse stack exhaust~~ **ASH1, AB1, the ASH5A and ASH5B exhaust stacks, and the exhaust vent ASH5C**. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).**

~~(b)~~ **(c)** To document **the** compliance **status** with Condition ~~D.5.6~~ **D.6.8**, the Permittee shall maintain **daily** records of the total static pressure drop across each baghouse **and air filter**. **The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).**

~~(c)~~**(d)** ~~All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~ **Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.**

D.6.11 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.6.2, shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

Ash Handling PM Emissions - Part 70 Quarterly Report

Facility:	**Ash Segment 2**
Parameter:	**PM Emissions**
Limit:	**not more than 6.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

Ash Handling PM_{10} Emissions - Part 70 Quarterly Report

Facility:	**Ash Segment 2**
Parameter:	**PM_{10} Emissions**
Limit:	**not more than 3.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

Ash Handling $PM_{2.5}$ Emissions - Part 70 Quarterly Report

Facility:	**Ash Segment 2**
Parameter:	**$PM_{2.5}$ Emissions**
Limit:	**not more than 3.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

~~SECTION D.6 FACILITY OPERATION CONDITIONS~~

~~Facility Description [326 IAC 2-7-5(15)]:~~

~~(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.~~

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

~~Emission Limitations and Standards [326 IAC 2-7-5(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 the pneumatic ash handling system (for fly ash and bottom ash from Boiler 5) and its 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 shall be performed once per day during normal daylight operations when transferring ash. A trained employee shall record whether emissions are normal or abnormal.~~

~~(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.~~

~~(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.~~

~~(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.~~

~~(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.~~

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

~~(a) The Permittee shall record the pressure drop across the ash silo baghouse at least once per day 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 - to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - to Excursions or Exceedances, shall be considered a deviation from this permit.~~

~~(b) The Permittee shall record the pressure drop across the air filters controlling emissions from the dry ash truck loading system, at least once per day 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 - to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - to Excursions or Exceedances, shall be considered a deviation from this permit.~~

~~(c) The instrument used for determining the pressure shall comply with Section C - 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 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]~~

~~(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).~~

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

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

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

~~D.6.7 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 pressure drop across each baghouse.~~

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

Change No. 37 Section D.7 has been revised as follows to include references and requirements for the limestone storage and handling operations associated with Boiler 6:

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

~~(j)~~ **(m)** Material handling for the limestone injection system for Boiler 5, including pneumatic conveyance **system, identified as LC5,** from truck to bulk storage in a silo outside**, identified as LS1,** or to a "day bin"**, identified as LI5,** inside the plant at an offload rate of approximately 12.5 tons per hour **(ton/hr)**; gravity fed from day bin into ~~the boiler~~ **Boiler 5**. Particulate emissions are controlled by a baghouse**, identified as LSBH1,** on the silo and filter cartridges**, identified as BVLI5,** 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.~~

(n) One (1) limestone handling system for Boiler 6, permitted in 2010, with a nominal capacity of 12.5 tons/hr, including one (1) limestone pneumatic conveyor system, identified as LC6, from the truck unloading area or from the existing silo, identified as LS1, through an extension of the pneumatic system for the Boiler 5 day bin, identified as LI5, to the day bin for Boiler 6, identified as LI6, with emissions controlled by a bin vent exhausting to vent BVLI6.

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.

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

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

D.7.1 PSD Minor Limits for Limestone Storage and Handling Operations [326 IAC 2-2]

(a) Total PM emissions from the limestone storage and handling equipment, LSBH1, BVLI5, and BVLI6, shall be limited at all times the unit is handling limestone to not exceed 6.0 tons of PM per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM_{10} emissions from the limestone storage and handling equipment, LSBH1, BVLI5, and BVLI6, shall be limited at all times the unit is handling limestone to not exceed 6.0 tons of PM_{10} per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) $PM_{2.5}$ emissions from the limestone storage and handling equipment, LSBH1, BVLI5, and BVLI6, shall be limited at all times the unit is handling limestone to not exceed 2.0 tons of $PM_{2.5}$ per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits combined with the potential to emit PM, PM_{10}, and $PM_{2.5}$ emissions from all other emission units associated with this modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations, will limit the potential to emit from this modification to less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, and less than ten (10) tons per year of $PM_{2.5}$. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification to add Boiler 6, Boiler 7, and Boiler 6 support facilities including limestone storage and handling operations.

~~D.7.1~~ **D.7.2** 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 **associated with Boiler 5 and Boiler 6** shall not exceed 22.2 pounds per hour **(lb/hr)** when operating at a process weight rate of 12.5 tons per hour **(ton/hr)**. ~~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 **(lb/hr)** shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour **(lb/hr);** and
P = process weight rate in tons per hour **(ton/hr)**.

~~D.7.2~~ **D.7.3** 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 limestone injection system for Boiler 5 and any emission control devices.~~ **A Preventive Maintenance Plan (PMP) is required for the limestone storage and handling operations and their emission control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.**

Compliance Determination Requirements

~~D.7.3~~ **D.7.4** Particulate Control [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit**, LSBH1, BVLI5, and BVLI6**, ~~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.

D.7.5 Compliance Determination Requirements [326 IAC 2-2]

The following equation shall be used for demonstrating compliance with the PM, PM_{10}, and $PM_{2.5}$ limits for the limestone storage and handling equipment in D.7.1:

$$E = \sum U \times EF\left(\frac{(100 - CE)}{100}\right)$$

Where:

E = Pollutant Emissions, tons/month
U = Limestone Handled, tons ash/month
EF = Uncontrolled pollutant emission rate, lb/ton limestone
CE = Control device efficiency, %
(for baghouses, CE = 99%; for bin vents, CE = 99%)
EF_{PM} = 2.2 lb/ton
EF_{PM10} = 2.2 lb/ton
$EF_{PM2.5}$ = 2.2 lb/ton

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

~~D.7.4~~ **D.7.6** Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

(a) Visible emission notations of the limestone handling systems exhaust ~~points~~ **point, identified as LSBH1,** shall be performed once per ~~day~~ **week** during normal daylight operations and when the silo is receiving ~~ash~~ **limestone**. A trained employee shall record whether emissions are normal or abnormal.

(b) - (d) ...

(e) ~~If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.~~ **If abnormal emissions are observed, the Permittee shall take reasonable response steps. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.**

~~D.7.5~~**D.7.7** ~~Baghouse~~ Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 64]**

(a) The Permittee shall record the pressure drop across the baghouse**, identified as LSBH1,** ~~used in conjunction with the limestone storage silo~~ at least once per week 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 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 - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) The Permittee shall record the pressure drop across the bin vents, identified as BVLI5 and BVLI6, at least once per week when limestone is being transferred into the day bins. When for any one reading, the pressure drop across the baghouse 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 - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

~~(b)~~**(c)** The instrument used for determining the pressure shall comply with Section C - 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.

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

~~D.7.7~~ **D.7.9** 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 pressure drop across each baghouse.~~

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

(a) To document the compliance status with the PM, PM_{10}, and $PM_{2.5}$ requirements in Conditions D.7.1, and D.7.5, the Permittee shall maintain monthly records of the amount of limestone handled. Records shall be complete and sufficient to establish compliance with the PM, PM_{10}, and $PM_{2.5}$ limits in Condition D.7.1.

(b) To document the compliance status with Condition D.7.6, the Permittee shall maintain weekly records of the visible emission notations of the limestone handling systems exhaust points. The Permittee shall include in its weekly record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that week).

(c) To document the compliance status with Condition D.7.7, the Permittee shall maintain weekly records of the total static pressure drop across each baghouse and bin vent. The Permittee shall include in its weekly record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that week).

(d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.7.10 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.7.1 shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1)by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

Limestone Storage and Handling PM Emissions
Part 70 Quarterly Report

Facility: **Limestone Storage and Handling (LSBH1, BVLI5, and BVLI6)**
Parameter: **PM Emissions**
Limit: **not more than 6.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

Limestone Storage and Handling PM_{10} Emissions
Part 70 Quarterly Report

Facility: **Limestone Storage and Handling (LSBH1, BVLI5, and BVLI6)**
Parameter: **PM_{10} Emissions**
Limit: **not more than 6.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

Limestone Storage and Handling $PM_{2.5}$ Emissions
Part 70 Quarterly Report

Facility: **Limestone Storage and Handling (LSBH1, BVLI-, and BVLI6)**
Parameter: **$PM_{2.5}$ Emissions**
Limit: **not more than 2.0 tons per 12 consecutive month period with compliance determined at the end of each month.**

Change No. 38 Condition D.8.3 has been revised as follows:

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 C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.**

Change No. 39 Section D.9 has been revised as follows:

SECTION D.9 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

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

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

Emission Limitations and Standards [326 IAC 2-7-5(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 **Black Start electric** 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)~~**(b)** NO_X emissions shall not exceed 3.2 **pounds per million British thermal units (**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.~~

Compliance with these emission limits will limit the potential to emit from the modification to add the Black Start Generator (BSG) to less than 25 tons per year of NO_X; therefore, the requirements of 326 IAC 2-7-10.5(f), (g), and (h) (Significant Source Modifications), 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-1.1-4 (Federal Provisions) are not applicable to modification to add the Black Start Generator (BSG).

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 Black Start electric generator, identified as BSG.~~ **A Preventive Maintenance Plan (PMP) is required for the Black Start electric generator, identified as BSG. Section B - Preventive Maintenance Plan contains the Permittee's obligations with regard to the preventive maintenance plan required by this condition.**

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~~ **To** document **the** compliance **status** with Condition D.9.1, the Permittee shall maintain records in accordance with (1) through ~~(6)~~ **(5)** 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)~~ **(5)** 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.~~ **Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.**

D.9.4 Reporting Requirements

A quarterly summary of the information to document **the** compliance **status** 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~~ **not later than thirty (30) days following the end of each calendar quarter**. The report submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34). **Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.**

Change No. 40 Conditions D.11.1 and D.11.2(a) have been revised as follows to remove a duplicate requirement:

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**, and 326 IAC 7-2-1(c)**, the sulfur dioxide emissions from fuel combustion facilities shall not exceed five-tenths (0.5) pound per million Btu for distillate oil combustion.

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 British thermal units (lb/MMBtu) of heat input.~~

~~(b)~~ Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7-4 **and in order to demonstrate compliance with Condition D.11.1**, fuel sampling and analysis data shall be collected as follows:

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

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

~~(A)~~ **(1)** Oil samples shall be collected from the tanker truck load prior to transferring fuel to the storage tank; or

~~(B)~~ **(2)** Oil samples shall be collected from the storage tank immediately after each addition of fuel to the tank.

Change No. 41 Section D.13 has been revised as follows:

SECTION D.13 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

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.

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

Emission Limitations and Standards [326 IAC 2-7-5(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 **(lb/hr)** and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour **(lb/hr)**. ~~This condition is not federally enforceable.~~

~~(c)~~ **(b)** 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 **(lb/hr)**:

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

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour **(lb/hr);** and
P = process weight rate in tons per hour **(ton/hr)**.

~~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~~ **D.13.2** 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.12.2, 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.~~

Change No. 42 IDEM has revised the way that NSPS requirements are incorporated into the permit. Sections E.1, E.2, and E.3 to list the applicable portions of the NSPS and remove unnecessary conditions, as noted in the above changes. The full text of each NSPS is included as attachment A, B, and C to the permit. The revisions are as follows:

~~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 (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), and~~

~~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:~~

~~$E_n = [(EL_{go} \cdot H_{go}) + (EL_{ro} \cdot H_{ro}) + (EL_c \cdot H_c)] / (H_{go} + H_{ro} + H_c)$ 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 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.2.9 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.2.10~~**D.2.9** Continuous Emissions Monitoring [326 IAC 3-5] ~~[326 IAC 12] [40 CFR 60, Subpart Db] [326 IAC 2-2]~~ **[40 CFR 64]**

(a) - (b) *See Section D.2 Changes.*

~~(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)~~

~~D.2.16 Reporting Requirements~~

~~(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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251~~

~~D.3.5 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.3.7 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.3.8~~ **D.3.5** 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 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 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)~~**(b)** 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) - (d) ...

~~(e) The following requirements shall apply in order to demonstrate compliance with 40 CFR 60, Subpart D, 326 IAC 5-1 and 326 IAC 6-2 in lieu of the COM requirements for Boiler 3 as approved by the Administrator:~~

~~(1) An observer certified in accordance with EPA Method 9 shall perform 6-minute visible emissions observations at least once per day during daylight hours when distillate fuel oil is burned in Boiler 3.~~

~~(2) If the average opacity for a 6-minute set of visible emissions observations made exceeds ten (10) percent, the observer shall collect two additional 6-minute sets of visible emissions observations for a total of three data sets. If excess emissions as defined in Condition D.3.11(b) occur during the three 6-minute sets of visible emissions observations, the observer shall collect additional 6-minute sets of visible emissions observations until excess emissions do not occur during three (3) consecutive 6-minute sets of visible emissions observations. Boiler 3 may be repaired or adjusted before the additional visible emissions observations are conducted.~~

~~D.3.9~~ **D.3.6** 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)... *See Section D.3 Changes.*

~~D.3.11~~ **D.3.8** Reporting Requirements

~~(a) A quarterly summary of the information to document compliance with Condition D.3.1(e) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form 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).~~

~~(b) The Permittee shall submit an excess emissions report (EER) to IDEM, OAQ for each calendar quarter in which there are excess emissions of opacity during combustion of distillate fuel oil. If there are no excess emissions of opacity during a calendar quarter, the EER may be submitted on a semiannual basis. Excess emissions are defined as any 6-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one (1) 6-minute average per hour of up to 27% opacity need not be reported.~~

~~(b)~~

~~(c) 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).~~

~~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.~~

~~These reports shall be submitted to:~~

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

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

~~(d) 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).~~

~~(e)~~... *See Section D.3 Changes.*

~~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.4.4 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.4.6 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.4.14 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 E.1 Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12] [40 CFR 60, Subpart Db]

Emission Unit Description:

(c) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation completed in 1991, with a nominal 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).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 5 is considered an affected source.

(d) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 6 is considered an affected source.

(e) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 7 is considered an affected source.

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

New Source Performance Standards (NSPS) [326 IAC 12] [40 CFR 60]

E.1.1 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, Boiler 6, and Boiler 7 except when otherwise specified in 40 CFR Part 60, Subpart Db.

E.1.2 Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12] [40 CFR 60, Subpart Db]

Pursuant to 40 CFR 60, Subpart Db, the Permittee shall comply with the provisions of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, which are incorporated by reference as 326 IAC 12 for Boiler 5, Boiler 6, and Boiler 7 as specified as follows:

(a) Boiler 5 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b(a) and (i)
(4) 40 CFR 60.43b(a)
(5) 40 CFR 60.44b(h), (i), and (l)(1)
(6) 40 CFR 60.45b
(7) 40 CFR 60.46b
(8) 40 CFR 60.47b
(9) 40 CFR 60.48b
(10) 40 CFR 60.49b

(b) Boiler 6 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b

(3) 40 CFR 60.42b(k)(1)
(4) 40 CFR 60.43b(h)(1)
(5) 40 CFR 60.44b(h), (i), and (l)(1)
(6) 40 CFR 60.45b
(7) 40 CFR 60.46b
(8) 40 CFR 60.47b
(9) 40 CFR 60.48b
(10) 40 CFR 60.49b

(c) Boiler 7 is subject to the following portions of Subpart Db.

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.41b
(3) 40 CFR 60.42b(k)(1-2)
(4) 40 CFR 60.44b(h), (i), and (l)(1)
(5) 40 CFR 60.46b
(6) 40 CFR 60.48b
(7) 40 CFR 60.49b

SECTION E.2 Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 [326 IAC 12] [40 CFR 60, Subpart D]

Emission Unit Description:

(b) 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 nominal capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

Under the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 NSPS (40 CFR 60, Subpart D), Boiler 3 is considered an affected source.

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

New Source Performance Standards (NSPS) [326 IAC 12] [40 CFR 60]

E.2.1 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.

E.2.2 Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 [326 IAC 12] [40 CFR 60, Subpart D]

Pursuant to 40 CFR 60, Subpart D, the Permittee shall comply with the provisions of the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971, which are incorporated by reference as 326 IAC 12 for Boiler 3 as specified as follows:

(1) 40 CFR 60.40(a)(1) and (c)
(2) 40 CFR 60.41
(3) 40 CFR 60.42(a) and (c)

(4) 40 CFR 60.43(a)(1)and (b-d)
(5) 40 CFR 60.44(a)(1-2), (b), and (e)
(6) 40 CFR 60.45
(7) 40 CFR 60.46

E.2.3 Alternative Opacity Requirement [326 IAC 12] [40 CFR 60, Subpart D]

Pursuant to the U.S. EPA letter dated September 16, 2004, the Permittee may operate Boiler 3 without a continuous opacity monitoring (COM) system provided the following requirements are met:

(a) The usage of distillate fuel oil in Boiler 3 shall be limited to 500,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Any change in the type of fuel oil used in Boiler 3, other than distillate fuel oil and natural gas, must be approved by IDEM, OAQ.

(c) An observer certified in accordance with EPA Method 9 shall perform 6-minute visible emissions observations at least once per day during daylight hours when distillate fuel oil is burned in Boiler 3.

(d) If the average opacity for a 6-minute set of visible emissions observations made exceeds ten (10) percent, the observer shall collect two additional 6-minute sets of visible emissions observations for a total of three data sets. If excess emissions occur during the three 6-minute sets of visible emissions observations, the observer shall collect additional 6-minute sets of visible emissions observations until excess emissions do not occur during three (3) consecutive 6-minute sets of visible emissions observations. Boiler 3 may be repaired or adjusted before the additional visible emissions observations are conducted.

E.2.4 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition E.2.3 shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION E.3 Standards of Performance for Coal Preparation Plants [326 IAC 12] [40 CFR 60, Subpart Y]

Emission Unit Description:

(h) One (1) coal storage and handling system identified as COAL Segment 2, installed in 1996, with a nominal capacity of 107 tons/hr, including: truck unloading 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 and one (1) Boiler 6 coal pre-crusher, 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 Utility Plant, with emissions from the final transfer point controlled by a baghouse exhausting to stack CV3. Coal is fed to the bunkers for Boiler 1, Boiler 2, and Boiler 6, and to the pre-crusher ahead of the indoor storage silo for Boiler 5. Emissions from the Boiler 1, Boiler 2, and Boiler 6 bunkers are controlled by a RotoClone for each of the two (2)

bunkers. The bunker for Boiler 1 and Boiler 6 exhaust to stack CB1. The bunker for Boiler 2 exhausts to CB2.

(j) One (1) coal preparation system for Boiler 5, with installation completed in 1991, with a nominal capacity of 12.68 tons/hr, including: one (1) enclosed 125 ton/hr Redler conveyor with one (1) enclosed pre-crusher (both serving in a back-up capacity), one (1) 150 ton/hr enclosed belt conveyor and pre-crusher with installation completed in 2009. Both lines feed into~~,~~ one (1) coal storage bunker, two (2) weigh belt feeders; and two (2) enclosed crushers with emission directed to a baghouse exhausting to stack CB5.

Under the Standards of Performance for Coal Preparation Plants NSPS (40 CFR 60, Subpart Y), the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 are considered affected sources.

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

New Source Performance Standards (NSPS) [326 IAC 12] [40 CFR 60]

E.3.1 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 preparation system for Boiler 5 including the crushers and COAL Segment 2 except when otherwise specified in 40 CFR Part 60, Subpart Y.

E.3.2 Standards of Performance for Coal Preparation Plants [326 IAC 12] [40 CFR 60, Subpart Y]

Pursuant to 40 CFR 60, Subpart Y, the Permittee shall comply with the provisions of the Standards of Performance for Coal Preparation Plants, which are incorporated by reference as 326 IAC 12 for the coal preparation system for Boiler 5 including the crushers and COAL Segment 2 as specified as follows:

(1) 40 CFR 60.250
(2) 40 CFR 60.251
(3) 40 CFR 60.252(c)
(4) 40 CFR 60.254

Change No. 43 The Nitrogen Oxide budget trading program is no longer applicable to any control period in 2009 or thereafter. Therefore, pursuant to 326 IAC 10-4-16(a), IDEM, OAQ, has removed Section E - Nitrogen Oxides Budget Trading Program in its entirety from the 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)]**~~

~~(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 a multi-compartment baghouse 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) 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 163,000 pounds of steam/216 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).~~

~~(d) 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).~~

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

~~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 F.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~~
~~MC 61-53, IGCN 1003~~
~~Indianapolis, Indiana 46204-2251~~

~~(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.~~

Change No. 44 Applicable requirements of the Clean Air Interstate Rule (CAIR) have been incorporated into original Section F (now Section G) of the permit for Boiler 6 and Boiler 7 as follows:

~~**SECTION F Clean Air Interstate (CAIR) Nitrogen Oxides Ozone Season Trading Programs – CAIR Permit for CAIR Units Under 326 IAC 24-3-1(a)**~~

~~**CAIR Permit for CAIR Units Under 326 IAC 24-3-1(a)**~~

~~(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 ESP or a multi-compartment baghouse 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).~~

~~Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Db), Boiler 5 is considered an affected source.~~

~~(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 163,000 pounds of steam/216 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).~~

~~Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart D), Boiler 3 is considered an affected source.~~

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

~~F.1 Automatic Incorporation of Definitions [326 IAC 24-3-7(e)] [40 CFR 97.323(b)]~~

~~This CAIR permit is deemed to incorporate automatically the definitions of terms under 326 IAC 326 IAC 24-3-2.~~

~~F.2 Standard Permit Requirements [326 IAC 24-3-4(a)] 40 CFR 97.306(a)]~~

~~(a) The owners and operators of the CAIR NO_X ozone season source and CAIR NO_X ozone season units shall operate each unit in compliance with this CAIR permit.~~

~~(b) The CAIR NO_X ozone season units subject to this CAIR permit are, Boiler 1, Boiler 2, Boiler 5 and Boiler 3.~~

~~F.3 Monitoring, Reporting, and Record Keeping Requirements [326 IAC 24-3-4(b)] [40 CFR 97.306(b)]~~

~~(a) The owners and operators, and the CAIR designated representative, of each CAIR NO_X ozone season source and CAIR NO_X ozone season unit at the source shall comply with the monitoring, reporting, and record keeping requirements of 326 IAC 24-3-11.~~

~~(b) The emissions measurements recorded and reported in accordance with 326 IAC 24-3-11 shall be used to determine compliance by each CAIR NO_X ozone season source with the CAIR NO_X ozone season emissions limitation under 326 IAC 24-3-4(c) and Condition F.4, Nitrogen Oxides Ozone Season Emission Requirements.~~

~~F.4 Nitrogen Oxides Ozone Season Emission Requirements [326 IAC 24-3-4(c)] [40 CFR 97.306(c)]~~

~~(a) As of the allowance transfer deadline, the owners and operators of the each CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall hold, in the source's compliance account, CAIR NO_X ozone season allowances available for compliance deductions for the control period under 326 IAC 24-3-9(i) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_X ozone season units at the source, as determined in accordance with 326 IAC 24-3-11.~~

~~(b) A CAIR NO_X ozone season unit shall be subject to the requirements under (a) above and 326 IAC 24-3-4(c)(1) starting on May 1, 2008.~~

~~(c) A CAIR NO_X ozone season allowance shall not be deducted for compliance with the requirements under (a) above and 326 IAC 24-3-4(c)(1), for a control period in a calendar year before the year for which the CAIR NO_X ozone season allowance was allocated.~~

~~(d) CAIR NO_X ozone season allowances shall be held in, deducted from, or transferred into or among CAIR NO_X ozone season allowance tracking system accounts in accordance with 326 IAC 24-3-9, 326 IAC 24-3-10, and 326 IAC 24-3-12.~~

~~(e) A CAIR NO_X ozone season allowance is a limited authorization to emit one (1) ton of nitrogen oxides in accordance with the CAIR NO_X ozone season trading program. No provision of the CAIR NO_X ozone season trading program, the CAIR permit application, the CAIR permit, or an exemption under 326 IAC 24-3-3 and no provision of law shall be construed to limit the authority of the State of Indiana or the United States to terminate or limit the authorization.~~

~~(f) A CAIR NO_X ozone season allowance does not constitute a property right.~~

~~(g) Upon recordation by the U.S. EPA under 326 IAC 24-3-8, 326 IAC 24-3-9, 326 IAC 24-3-10, or 326 IAC 24-3-12, every allocation, transfer, or deduction of a CAIR NO_X ozone season allowance to or from a CAIR NO_X ozone season source's compliance account is incorporated automatically in this CAIR permit.~~

~~F.5 Excess Emissions Requirements [326 IAC 24-3-4(d)] [40 CFR 97.306(d)]~~

~~The owners and operators of a CAIR NO_X ozone season source and each CAIR NO_X ozone season unit that emits nitrogen oxides during any control period in excess of the CAIR NO_X ozone season emissions limitation shall do the following:~~

~~(a) Surrender the CAIR NO_X ozone season allowances required for deduction under 326 IAC 24-3-9(j)(4).~~

~~(b) Pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, the Clean Air Act (CAA) or applicable state law.~~

~~Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 326 IAC 24-3-4, the Clean Air Act (CAA), and applicable state law.~~

~~F.6 Record Keeping Requirements [326 IAC 24-3-4(e)] [326 IAC 2-7-5(3)] [40 CFR 97.306(e)]~~

~~Unless otherwise provided, the owners and operators of the CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall keep 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 from the date the document was created:~~

~~(a) The certificate of representation under 326 IAC 24-3-6(h) for the CAIR designated representative for the source and each CAIR NO_X ozone season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation. The certificate and documents shall be retained on site at the source or at a central location within Indiana for those owners or operators with unattended sources beyond such five (5) year period until such documents are superseded because of the submission of a new account certificate of representation under 326 IAC 24-3-6(h) changing the CAIR designated representative.~~

~~(b) All emissions monitoring information, in accordance with 326 IAC 24-3-11, provided that to the extent 326 IAC 24-3-11 provides 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 CAIR NO_X ozone season trading program.~~

~~(d) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_X ozone season trading program or to demonstrate compliance with the requirements of the CAIR NO_X ozone season trading program.~~

~~This period may be extended for cause, at any time before the end of five (5) years, in writing by IDEM, OAQ or the U.S. EPA. Unless otherwise provided, all records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~

~~F.7 Reporting Requirements [326 IAC 24-3-4(e)] [40 CFR 97.306(e)]~~

~~(a) The CAIR designated representative of the CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall submit the reports required under the CAIR NO_X ozone season trading program, including those under 326 IAC 24-3-11.~~

~~(b) Pursuant to 326 IAC 24-3-4(e) and 326 IAC 24-3-6(e)(1), each submission under the CAIR NO_X ozone season trading program shall include the following certification statement by the CAIR designated representative: "I am authorized to make this submission on behalf of the owners and operators of the source or 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 24-3 requires a submission to IDEM, OAQ, the CAIR designated representative shall submit required information to:~~

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

~~(d) Where 326 IAC 24-3 requires a submission to U.S. EPA, the CAIR designated 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~~

~~F.8 Liability [326 IAC 24-3-4(f)] [40 CFR 97.306(f)]~~

~~The owners and operators of each and CAIR NO_X ozone season source and each CAIR NO_X ozone season unit shall be liable as follows:~~

~~(a) Each CAIR NO_X ozone season source and each CAIR NO_X ozone season unit shall meet the requirements of the CAIR NO_X ozone season trading program.~~

~~(b) Any provision of the CAIR NO_X ozone season trading program that applies to a CAIR NO_X ozone season source or the CAIR designated representative of a CAIR NO_X ozone season source shall also apply to the owners and operators of such source and of the CAIR NO_X ozone season units at the source~~

~~(c) Any provision of the CAIR NO_X ozone season trading program that applies to a CAIR NO_X ozone season unit or the CAIR designated representative of a CAIR NO_X ozone season unit shall also apply to the owners and operators of such units.~~

~~F.9 Effect on Other Authorities [326 IAC 24-3-4(g)] [40 CFR 97.306(g)]~~

~~No provision of the CAIR NO_X ozone season trading program, a CAIR permit application, a CAIR permit, or an exemption under 326 IAC 24-3-3 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_X ozone season source or CAIR NO_X ozone season unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act (CAA).~~

SECTION F Clean Air Interstate Rule (CAIR) Nitrogen Oxides Ozone Season Trading Program – CAIR Permit for CAIR Units Under 326 IAC 24-3-1(a)

ORIS Code: 50240

CAIR Permit for CAIR Units Under 326 IAC 24-3-1(a)

(a) One (1) spreader stoker coal fired boiler, identified as Boiler 1, with installation completed in 1960, with a nominal 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 nominal capacity of 274 MMBtu/hr, with a multi-cyclone collector and a multi-compartment baghouse 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) 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 nominal capacity of 286 MMBtu/hr, exhausting to stack WADE 03. Boiler 3 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

(d) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 5, with installation started in 1989 and completed in 1991, with a nominal 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).

(e) One (1) circulating fluidized bed coal fired boiler, identified as Boiler 6, permitted in 2010, with a nominal capacity of 380 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 01. Boiler 6 has continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X) and sulfur dioxide (SO_2) and a continuous opacity monitor (COM).

(f) One (1) natural gas fired boiler, identified as Boiler 7, permitted in 2010, with a nominal capacity of 290 MMBtu/hr, exhausting to stack WADE 03. Boiler 7 has a continuous emissions monitoring system (CEMS) for nitrogen oxides (NO_X).

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

F.1 Automatic Incorporation of Definitions [326 IAC 24-3-7(e)] [40 CFR 97.323(b)]

This CAIR permit is deemed to incorporate automatically the definitions of terms under 326 IAC 24-3-2.

F.2 Standard Permit Requirements [326 IAC 24-3-4(a)] [40 CFR 97.306(a)]

(a) The owners and operators of each CAIR NO_X ozone season source and CAIR NO_X ozone season unit shall operate each source and unit in compliance with this CAIR permit.

(b) The CAIR NO_X ozone season units subject to this CAIR permit are Boiler 1, Boiler 2, Boiler 3, Boiler 5, Boiler 6, and Boiler 7.

F.3 Monitoring, Reporting, and Record Keeping Requirements [326 IAC 24-3-4(b)] [40 CFR 97.306(b)]

(a) The owners and operators, and the CAIR designated representative, of each CAIR NO_X ozone season source and CAIR NO_X ozone season unit at the source shall comply with the applicable monitoring, reporting, and record keeping requirements of 326 IAC 24-3-11.

(b) The emissions measurements recorded and reported in accordance with 326 IAC 24-3-11 shall be used to determine compliance by each CAIR NO_X ozone season source with the CAIR NO_X ozone season emissions limitation under 326 IAC 24-3-4(c) and Condition F.4, Nitrogen Oxides Ozone Season Emission Requirements.

F.4 Nitrogen Oxides Ozone Season Emission Requirements [326 IAC 24-3-4(c)] [40 CFR 97.306(c)]

(a) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall hold, in the source's compliance account, CAIR NO_X ozone season allowances available for compliance deductions for the control period under 326 IAC 24-3-9(i) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_X ozone season units at the source, as determined in accordance with 326 IAC 24-3-11.

(b) A CAIR NO_X ozone season unit shall be subject to the requirements under 326 IAC 24-3-4(c)(1) for the control period starting on the applicable date, as determined under 326 IAC 24-3-4(c)(2), and for each control period thereafter.

(c) A CAIR NO_X ozone season allowance shall not be deducted for compliance with the requirements under 326 IAC 24-3-4(c)(1), for a control period in a calendar year before the year for which the CAIR NO_X ozone season allowance was allocated.

(d) CAIR NO_X ozone season allowances shall be held in, deducted from, or transferred into or among CAIR NO_X ozone season allowance tracking system accounts in accordance with 326 IAC 24-3-9, 326 IAC 24-3-10, and 326 IAC 24-3-12.

(e) A CAIR NO_X ozone season allowance is a limited authorization to emit one (1) ton of nitrogen oxides in accordance with the CAIR NO_X ozone season trading program. No provision of the CAIR NO_X ozone season trading program, the CAIR permit application, the CAIR permit, or an exemption under 326 IAC 24-3-3 and no provision of law shall be construed to limit the authority of the State of Indiana or the United States to terminate or limit the authorization.

(f) A CAIR NO_X ozone season allowance does not constitute a property right.

(g) Upon recordation by the U.S. EPA under 326 IAC 24-3-8, 326 IAC 24-3-9, 326 IAC 24-3-10, or 326 IAC 24-3-12, every allocation, transfer, or deduction of a CAIR NO_X ozone season allowance to or from a CAIR NO_X ozone season source's compliance account is incorporated automatically in this CAIR permit.

F.5 Excess Emissions Requirements [326 IAC 24-3-4(d)] [40 CFR 97.306(d)]

The owners and operators of a CAIR NO_X ozone season source and each CAIR NO_X ozone season unit that emits nitrogen oxides during any control period in excess of the CAIR NO_X ozone season emissions limitation shall do the following:

(a) Surrender the CAIR NO_X ozone season allowances required for deduction under 326 IAC 24-3-9(j)(4).

(b) Pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, the Clean Air Act (CAA) or applicable state law.

Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 326 IAC 24-3-4, the Clean Air Act (CAA), and applicable state law.

F.6 Record Keeping Requirements [326 IAC 24-3-4(e)] [326 IAC 2-7-5(3)] [40 CFR 97.306(e)]

Unless otherwise provided, the owners and operators of the CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall keep 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 from the date the document was created:

(a) The certificate of representation under 326 IAC 24-3-6(h) for the CAIR designated representative for the source and each CAIR NO_X ozone season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation. The certificate and documents shall be retained on site at the source or at a central location within Indiana for those owners or operators with unattended sources beyond such five (5) year period until such documents are superseded because of the submission of a new account certificate of representation under 326 IAC 24-3-6(h) changing the CAIR designated representative.

(b) All emissions monitoring information, in accordance with 326 IAC 24-3-11, provided that to the extent that 326 IAC 24-3-11 provides 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 CAIR NO_X ozone season trading program.

(d) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_X ozone season trading program or to demonstrate compliance with the requirements of the CAIR NO_X ozone season trading program.

This period may be extended for cause, at any time before the end of five (5) years, in writing by IDEM, OAQ or the U.S. EPA. Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

F.7 Reporting Requirements [326 IAC 24-3-4(e)] [40 CFR 97.306(e)]

(a) The CAIR designated representative of the CAIR NO_X ozone season source and each CAIR NO_X ozone season unit at the source shall submit the reports required under the CAIR NO_X ozone season trading program, including those under 326 IAC 24-3-11.

(b) Pursuant to 326 IAC 24-3-4(e) and 326 IAC 24-3-6(e)(1), each submission under the CAIR NO_X ozone season trading program shall include the following certification statement by the CAIR designated representative: "I am authorized to make this submission on behalf of the owners and operators of the source or 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 24-3 requires a submission to IDEM, OAQ, the information shall be submitted to:

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

(d) Where 326 IAC 24-3 requires a submission to U.S. EPA, the information shall be submitted to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue, NW
Mail Code 6204N
Washington, DC 20460

F.8 Liability [326 IAC 24-3-4(f)] [40 CFR 97.306(f)]

The owners and operators of each CAIR NO_X ozone season source and each CAIR NO_X ozone season unit shall be liable as follows:

(a) Each CAIR NO_X ozone season source and each CAIR NO_X ozone season unit shall meet the requirements of the CAIR NO_X ozone season trading program.

(b) Any provision of the C CAIR NO_X ozone season trading program that applies to a CAIR NO_X ozone season source or the CAIR designated representative of a CAIR NO_X ozone season source shall also apply to the owners and operators of such source and of the CAIR NO_X ozone season units at the source.

(c) Any provision of the CAIR NO_X ozone season trading program that applies to a CAIR NO_X ozone season unit or the CAIR designated representative of a CAIR NO_X ozone season unit shall also apply to the owners and operators of such unit.

F.9 Effect on Other Authorities [326 IAC 24-3-4(g)] [40 CFR 97.306(g)]

No provision of the CAIR NO_X ozone season trading program, a CAIR permit application, a CAIR permit, or an exemption under 326 IAC 24-3-3 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_X ozone season source or CAIR NO_X ozone season unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act (CAA).

F.10 CAIR Designated Representative and Alternate CAIR Designated Representative [326 IAC 24-3-6] [40 CFR 97, Subpart BBBB]

Pursuant to 326 IAC 24-3-6:

(a) Except as specified in 326 IAC 24-3-6(f)(3), each CAIR NO_X ozone season source, including all CAIR NO_X ozone season units at the source, shall have one (1) and only one (1) CAIR designated representative, with regard to all matters under the CAIR NO_X ozone season trading program concerning the source or any CAIR NO_X ozone season unit at the source.

(b) The provisions of 326 IAC 24-3-6(f) shall apply where the owners or operators of a CAIR NO_X ozone season source choose to designate an alternate CAIR designated representative.

Except as specified in 326 IAC 24-3-6(f)(3), whenever the term "CAIR designated representative" is used, the term shall be construed to include the CAIR designated representative or any alternate CAIR designated representative.

Change No. 45 The Quarterly Reports have been updated as follows:

EMERGENCY OCCURRENCE REPORT

...

☐ This is an emergency as defined in 326 IAC 2-7-1(12). • The Permittee must notify the Office of Air Quality (OAQ), ~~within~~ **no later than** four (**4**) **daytime** business hours (1-800-451-6027 or 317-233-0178, ask for Compliance and Enforcement Branch); and • The Permittee must submit notice in writing or by facsimile ~~within~~ **no later than** two (**2**) days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

...

~~Attach a signed certification to complete this report.~~
A certification is not required for this report.

Change No. 46 The Quarterly Reports have been updated as follows:

Part 70 Quarterly Report

...

Attach a signed certification **that meets the requirements of 326 IAC 2-7-6(1)** to complete this report.

Change No. 47 The Quarterly Deviation and Compliance Monitoring Report has been updated as follows:

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

...

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

...

Attach a signed certification **that meets the requirements of 326 IAC 2-7-6(1)** to complete this report.

Conclusion and Recommendation

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 157-27361-00012 and Part 70 Operating Permit Renewal No.: 157-27313-00012.

(1) Based on the facts, conditions and evaluations made, OAQ recommends to the IDEM Commissioner that the Significant Source Modification No. 157-27361-00012 and Part 70 Operating Permit Renewal No.: 157-27313-00012 be approved.

(2) A copy of the preliminary findings is also available on the Internet at: www.in.gov/idem/permits/air/pending.html.

(3) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem/permits/guide/.

IDEM Contact

Questions regarding this proposed permit can be directed to:

Kimberly Cottrell
Indiana Department Environmental Management
Office of Air Quality
100 North Senate Avenue
MC 61-53, Room 1003
Indianapolis, Indiana 46204-2251
Toll free (within Indiana): 1-800-451-6027 extension 3-0870
Or dial directly: (317) 233-0870
kcottrel@idem.in.gov

Please refer to Significant Source Modification No. 157-27361-00012 and Part 70 Operating Permit Renewal No.: 157-27313-00012 in all correspondence.

Indiana Department of Environmental Management
Office of Air Quality

Appendix A – Emission Calculations
Technical Support Document (TSD)
Significant Source Modification (SSM) of a Part 70 Source
Significant Permit Modification (SPM) of Part 70 Operating Permit

Source Description and Location

Company Name: Purdue University
Address City IN Zip: 401 S. Grant St., Freehafer Hall of Administrative Services, West Lafayette, Indiana 47907-2024
County: Tippecanoe
SIC: 8221
Significant Source Modification (SSM) No.: 157-27361-00012
Part 70 Operating Permit Renewal No.: T 157-27313-00012
Permit Reviewer: Kimberly Cottrell
Date: March 8, 2010

Summary of Potential to Emit

The tables below summarize the potential to emit calculations submitted by Purdue University. The subsequent pages of this document contain the calculations provided by Purdue University. IDEM has reviewed these calculations and verified their accuracy.

Uncontrolled Emissions of Boiler 6 & Boiler 7

Process	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SOx (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Lead (tpy)	Beryllium (tpy)	Mercury (tpy)	Sulfuric Acid Mist (tpy)	Fluorides (tpy)	Hexane (tpy)	HCl (tpy)	Total HAP (tpy)
Boiler 7 (NG)	2.37	9.46	9.46	0.75	62.26	6.85	104.60	6.23E-04	1.49E-05	3.24E-04			2.24		2.35
Boiler 6 (Coal Circulating Fluidized Bed)*	44,056.67	233.02	233.02	6,657.60	378.27	16.64	294.60	0.08	0.03534	0.006	9.154	0.34	0.0051	33.29	43.37
Limestone Handling**	158.99	158.99	158.99												
Coal Handling	584.39	276.40	41.86												
Ash Handling	451.10	158.03	158.03												
Total Future Potential	**45,253.52**	**835.91**	**601.36**	**6,658.35**	**440.54**	**23.49**	**399.20**	**0.08**	**0.03536**	**0.01**	**9.15**	**0.34**	**2.25**	**33.29**	**45.72**
PSD Major Modification Threshold (tpy)	**25**	**15**	**10**	**40**	**40**	**40**	**100**	**0.6**	**0.00040**	**0.1**	**7.0**	**3.0**	**NA**	**NA**	**NA**
Triggers PSD Applicability Analysis? (Yes or No)	YES	YES	YES	YES	YES	NO	YES	NO	YES	NO	YES	NO			

* Worst case emissions are based on manufacturer's guarantee.
** Assumes PM_{10} emissions are equal to PM emissions.

Limited Potential to Emit of Boiler 6 & Boiler 7

Process	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SOx (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Lead (tpy)	Beryllium (tpy)	Mercury (tpy)	Sulfuric Acid Mist (tpy)	Fluorides (tpy)	Hexane (tpy)	HCl (tpy)	Total HAP (tpy)
Boiler 7 (NG)	1.76	7.03	7.03	0.56	46.25	5.09	77.70	4.63E-04	1.11E-05	2.41E-04			1.67		1.75
Boiler 6 (Coal Circulating Fluidized Bed)	36.30	169.40	169.40	1,379.40	242.00	16.64	214.17	0.08	0.02569	0.006	6.99	0.34	0.0051	9.99	17.39
Limestone Handling**	6.00	6.00	2.00												
Coal Handling	8.00	8.00	1.50												
Ash Handling	6.00	3.00	3.00												
Total Future Potential	**58.06**	**193.43**	**182.93**	**1,379.96**	**288.25**	**21.73**	**291.87**	**0.08**	**0.02570**	**0.007**	**6.99**	**0.34**	**1.67**	**9.99**	**19.13**
PSD Major Modification Threshold (tpy)	**25**	**15**	**10**	**40**	**40**	**40**	**100**	**0.6**	**0.00040**	**0.1**	**7.0**	**3.0**	**NA**	**NA**	**NA**
Triggers PSD Applicability Analysis? (Yes or No)	YES	YES	YES	YES	YES	NO	YES	NO	YES	NO	NO	NO			

** Assumes PM_{10} emissions are equal to PM emissions.

Emissions Netting Analysis

Emissions	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SOx (tpy)	NOx (tpy)	CO (tpy)	Beryllium (tpy)
(Boiler 6 & Boiler 7 Activities Future Potential Emissions)	58.06	193.43	182.93	1,379.96	288.25	291.87	0.02570
Contemporaneous Increase (Poultry Incinerator)	0.13	0.12	0.12	1.22	0.80	0.09	
Contemporaneous Increase (Emergency Generators)	1.10	1.08	1.08	2.43	24.49	5.64	
Contemporaneous Increase (NG Boilers Replaced in Past 5 Years)	0.16	0.16	0.16	0.01	0.87	0.73	
Contemporaneous Decrease (Boiler 1 Removal)	-421.17	-301.55	-187.66	-1,390.19	-353.44	-298.68	-0.03848
Net Emissions Increase	-361.72	-106.77	-3.38	-6.57	-39.04	-0.36	-0.01277
PSD Major Modification Threshold (tpy)	25	15	10	40	40	100	0.00040
Triggers PSD after netting? (Yes or No)	NO	NO	NO	NO	NO	NO	NO

Summary of Short Term Emission Limits*

Process	PM (lb/MMBtu)	PM_{10} (lb/MMBtu)	$PM_{2.5}$ (lb/MMBtu)	SOx (lb/MMBtu)	NOx (lb/MMBtu)	CO (lb/MMBtu)
Boiler 7 (NG)	0.0019	0.0075	0.0075	0.0006	0.0490	0.0824

Natural Gas Usage Limitation
1,850 MMCF/yr

Boiler 6 Potential to Emit Calculations (New Unit)

Pollutant	Emission Rate		Basis for Emission Rate	lb/hr	Uncontrolled PTE (ton/yr)	Limited PTE (ton/yr)
PM	26.47	lb/MMBtu	manufacturer guarantee (uncontrolled)	10,058.60	44,056.67	
	0.03	lb/MMBtu	NSPS Subpart Db	11.40		**36.30**
PM_{10}	0.14	lb/MMBtu	manufacturer guarantee	53.20	233.02	**169.40**
$PM_{2.5}$	0.14	lb/MMBtu	manufacturer guarantee	53.20	233.02	**169.40**
SO_2	4	lb/MMBtu	manufacturer guarantee	1,520.00	6,657.60	
	1.14	lb/MMBtu	Proposed Voluntary Limit	433.20		**1379.40**
NO_X	5.0	lb/ton coal	AP-42 Table 1.1-3	86.36	378.27	
	0.2	lb/MMBtu	NSPS Subpart Db	76.00		**242.00**
VOC	0.01	lb/MMBtu	manufacturer guarantee	3.80	**16.64**	na
CO	0.177	lb/MMBtu	manufacturer guarantee	67.26	294.60	**214.17**
Lead	0.001	lb/ton of coal	manufacturer guarantee	0.017	0.08	
* Beryllium (see below)	2.12E-05	lb/mmBtu	AP-42 Table 1.1-16	0.0081	0.03534	**0.02569**
Mercury	8.30E-05	lb/ton of coal	AP-42 Table 1.1-18	0.001	**0.006**	na
Fluorides	0.15	lb/ton of coal (as HF)	AP-42 Table 1.1-15 (uncontrolled) (Assume 97% Ctrld)	0.078	**0.34**	na
Sulfuric Acid mist	0.0055	lb/MMBtu	manufacturer guarantee	2.09	9.15	**6.99**

Dioxins & Dioxin-Like Compounds	1.764E-09	lb/ton of coal	AP-42 Table 1.1-12	0.00000003	0.00000013	0.00000010
	0.02	lb/MMBtu	Actual Boiler 5 Performance	7.6	33.29	24.20
HCl	0.0083	lb/MMBtu	Proposed Limit	3.1	13.75	**9.99**
PACs	1.12E-06	lb/ton of coal	*	0.000019	0.000085	0.000062
Benzene	1.3E-03	lb/ton of coal	AP-42 Table 1.1-14	0.022	0.098	0.072
Benzyl Chloride	7.0E-04	lb/ton of coal	AP-42 Table 1.1-14	0.012	0.053	0.039
Acetaldehyde	5.7E-04	lb/ton of coal	AP-42 Table 1.1-14	0.0098	0.043	0.031
Cyanide	2.5E-03	lb/ton of coal	AP-42 Table 1.1-14	0.043	0.19	0.14
Ethyl Benzene	9.4E-05	lb/ton of coal	AP-42 Table 1.1-14	0.0016	0.0071	0.0052
Formaldehyde	2.4E-04	lb/ton of coal	AP-42 Table 1.1-14	0.0041	0.018	0.013
Hexane	6.7E-05	lb/ton of coal	AP-42 Table 1.1-14	0.0012	0.0051	0.0037
Methylene Chloride	2.9E-04	lb/ton of coal	AP-42 Table 1.1-14	0.0050	0.022	0.0160
Phenol	1.6E-05	lb/ton of coal	AP-42 Table 1.1-14	0.00028	0.0012	0.00088
Toluene	2.4E-04	lb/ton of coal	AP-42 Table 1.1-14	0.0041	0.018	0.013
Styrene	2.5E-05	lb/ton of coal	AP-42 Table 1.1-14	0.00043	0.0019	0.0014
Xylene	3.7E-05	lb/ton of coal	AP-42 Table 1.1-14	0.00064	0.0028	0.0020
Benzo(g,h,i) perylene	2.7E-08	lb/ton of coal	USEPA's Pesticides and PBTs TRI Guidance Document (3/2001)	0.00000047	0.0000020	0.0000015
Hexachlorobenzene	1.6E-07	lb/ton of coal	USEPA's Pesticides and PBTs TRI Guidance Document (3/2001)	0.0000028	0.000012	0.0000088

* USEPA's EPCRA Guidance for Reporting Toxic Chemicals for the Polycyclic Aromatic Compounds Category (EPA 260-B-01-03), August 2001, Table 2-3

Total HAP:	43.37	17.39

Hourly Capacity

250 lb/hr steam
380 mmBtu/hr
34,545.45 lbs coal/hr (based on 11,000 Btu/lb coal assumption)

Coal Data for Estimated Actual Max Calculations

11,000 Btu/lb coal
110,000 t/yr estimated actual coal burned

Coal Properties

Sulfur Content (S):	5.4%	Max (AP-42)
Calcium Content (Ca):	37.8%	Max (AP-42)
Ash Content (A):	12.0%	Site Specific
Moisture Content (M):	7.4%	Max (AP-42)
Lead Content (C):	43	ppm

range is 0.5 to 43 ppm for Danville Coal

*** Beryllium Emission Factor (AP-42 Table 1.1-16)**

Beryllium Emission Equation (lb/10^{12}) = 1.2*(C/A * PM)$^{1.1}$

Where: C =	concentration of metal in the coal, parts per million by weight (ppmwt) =	54.51 ppm	Worst Case
A =	wt. fraction of ash in coal. For example, 10% ash is 0.1 x ash fraction =	0.12	IN Geological Survey
PM =	Site specific emission factor for total particulate matter, lb/10^6 Btu =	0.03 NSPS Maximum	

Be (lb/10^{12} Btu) = 21.23
= 2.12E-05

Boiler 7 Potential to Emit Calculations

Heat Input Capacity =	259	MMBtu/hr
Steam Output =	200,000	lb/hr boiler
Heat Input =	290,000,000	mmBtu/hr
Fuel Consumption =	Natural Gas	
Natural Gas - Heat content =	1020	Btu/cu ft
Maximum Fuel Feed Rate =	284,314	cf/hr
	2,491	MMCF/yr
Limited Fuel Feed Rate =	**1,850**	**MMCF/yr**

Pollutant	Maximum rate MMCF/hr	Emission Factor lb/MMCF	Maximum Uncontrolled Emission Rate lb/hr	Maximum Uncontrolled Emission Rate lb/MMBtu	Maximum Uncontrolled Emissions tpy	Limited Emissions* tpy
PM (filterable)	0.284	1.9	0.5402	0.0021	2.37	**1.76**
PM_{10} (filterable + condensable)	0.284	7.6	2.1608	0.0083	9.46	**7.03**
$PM_{2.5}$ (filterable + condensable)	0.284	7.6	2.1608	0.0083	9.46	**7.03**
SO_2	0.284	0.6	0.1706	0.0007	0.75	**0.56**
NOx**	0.284	50	14.2157	0.0549	62.26	**46.25**
VOC	0.284	5.5	1.5637	0.0060	6.85	**5.09**
CO	0.284	84	23.8824	0.0922	104.60	**77.70**
Hazardous Air Pollutants						
Lead	0.284	5.00E-04	1.42E-04	5.49E-07	6.23E-04	**4.63E-04**
Beryllium	0.284	1.20E-05	3.41E-06	1.32E-08	1.49E-05	**1.11E-05**
Mercury	0.284	2.60E-04	7.39E-05	2.85E-07	3.24E-04	**2.41E-04**
Arsenic	0.284	2.00E-04	5.69E-05	2.20E-07	2.49E-04	1.85E-04
Chromium	0.284	1.40E-03	3.98E-04	1.54E-06	1.74E-03	1.30E-03
Cobalt	0.284	8.40E-05	2.39E-05	9.22E-08	1.05E-04	7.77E-05
Manganese	0.284	3.80E-04	1.08E-04	4.17E-07	4.73E-04	3.52E-04
Nickel	0.284	2.10E-03	5.97E-04	2.31E-06	2.62E-03	1.94E-03
Selenium	0.284	2.40E-05	6.82E-06	2.63E-08	2.99E-05	2.22E-05
2-Methylnaphthalene	0.284	2.40E-05	6.82E-06	2.63E-08	2.99E-05	2.22E-05
3-Methylchloroanthrene	0.284	1.80E-06	5.12E-07	1.98E-09	2.24E-06	1.67E-06
7,12-Dimethylbenz(a)anthracene	0.284	1.60E-05	4.55E-06	1.76E-08	1.99E-05	1.48E-05
Acenapthene	0.284	1.60E-06	4.55E-07	1.76E-09	1.99E-06	1.48E-06
Acenaphthylene	0.284	1.80E-06	5.12E-07	1.98E-09	2.24E-06	1.67E-06
Benzene	0.284	2.10E-03	5.97E-04	2.31E-06	2.62E-03	1.94E-03
Benzo(a)pyrene	0.284	1.20E-06	3.41E-07	1.32E-09	1.49E-06	1.11E-06
Benzo(b)fluoranthene	0.284	1.80E-06	5.12E-07	1.98E-09	2.24E-06	1.67E-06
Benzo(k)fluoranthene	0.284	1.80E-06	5.12E-07	1.98E-09	2.24E-06	1.67E-06
Chrysene	0.284	1.80E-06	5.12E-07	1.98E-09	2.24E-06	1.67E-06
Dibenzo(a,h)anthracene	0.284	1.20E-06	3.41E-07	1.32E-09	1.49E-06	1.11E-06
Dichlorobenzene	0.284	1.20E-03	3.41E-04	1.32E-06	1.49E-03	1.11E-03
Fluoranthene	0.284	3.00E-06	8.53E-07	3.29E-09	3.74E-06	2.78E-06
Fluorene	0.284	2.80E-06	7.96E-07	3.07E-09	3.49E-06	2.59E-06
Formaldehyde	0.284	0.08	0.02	8.23E-05	0.09	6.94E-02
Hexane	0.284	1.80	0.51	1.98E-03	2.24	**1.67**
Indeno(1,2,3-cd)pyrene	0.284	1.80E-06	5.12E-07	1.98E-09	2.24E-06	1.67E-06
Naphthalene	0.284	6.10E-04	1.73E-04	6.70E-07	7.60E-04	5.64E-04
Phenanathrene	0.284	1.70E-05	4.83E-06	1.87E-08	2.12E-05	1.57E-05
Pyrene	0.284	5.00E-06	1.42E-06	5.49E-09	6.23E-06	4.63E-06
Toluene	0.284	3.40E-03	9.67E-04	3.73E-06	4.23E-03	3.15E-03
Total HAP			0.54		2.35	**1.75**

* Based on a maximum of 1850 MMCF per year
** Low NOx Burners
AP-42 Emission Factors, Ch. 1.4, July 1998

Limestone Handling Emissions for Boiler 6

5.5 ton/hr of limestone (max potential usage at Boiler 5 & 6 capacity)
48,180 Tons/yr of Limestone at 8760 hr/yr (Actual operating hours vary; however, maximum throughput will not change)

Process	Throughput	Uncontrolled Emission Factor			Uncontrolled Emissions			Control	Control Efficiency			Controlled Emissions			Hours of	Controlled Emission Rate		
	ton/yr	PM lb/ton	PM_{10} lb/ton	$PM_{2.5}$ lb/ton	PM ton/yr	PM_{10} ton/yr	$PM_{2.5}$ ton/yr	Device	PM %	PM_{10} %	$PM_{2.5}$ %	PM ton/yr	PM_{10} ton/yr	$PM_{2.5}$ ton/yr	Operation hr	PM lb/hr	PM_{10} lb/hr	$PM_{2.5}$ lb/hr
Limestone Conveying / Handling	48,180	2.2	2.2	2.2	53.00	53.00	53.00	BH	99	99	99	0.53	0.53	0.53	1800	0.59	0.59	0.59
Limestone Storage Bunker In Plant	48,180	2.2	2.2	2.2	53.00	53.00	53.00	BH	99	99	99	0.53	0.53	0.53	1800	0.59	0.59	0.59
Limestone Storage Silo Outdoors	48,180	2.2	2.2	2.2	53.00	53.00	53.00	BH	99	99	99	0.53	0.53	0.53	650	1.63	1.63	1.63
Totals					158.99	158.99	158.99					1.59	1.59	1.59		2.81	2.81	2.81
Proposed Emission Limits												**6.00**	**6.00**	**2.00**				

Notes:
BH = Baghouse
uncontrolled emission factors for are from Limestone Transfer & Conveying (AP-42 Table 11.17-4)
Contol Efficiencies are manufacturer guarantee.

Methodology:
Uncontrolled Emissions (tpy) = EF (lb/ton coal) / 2000lb/ton x Throughput (ton coal/yr)
Controlled Emissions (tpy) = Uncontrolled Emissions (tpy) x (100 - CE)/100
Controlled EF (lb/hr) = Controlled Emissions (tpy) x 2000lb/ton / Hours of Operation (hr/yr)

Coal Handling Emissions for Boiler 6

Coal Handling (Coal 2 system) supplies coal to Boiler 1, 2, 5, & 6. The calculations provided represent the maximum capacity of the system for all coal-fired boilers. COAL 1 is only used as a back-up system; therefore, a limit of 10,000 ton/yr coal throughput is requested for PSD purposes.

38.13 Tons/hr of Coal (maximum usage for all coal fired boilers)
334,000 Tons/yr of Coal (maximum usage for all coal fired boilers)

334,000 Tons/yr of Coal (potential usage for Boiler 6)
61,516 Tons/yr of Coal (baseline coal usage from Boiler 1)
272,484 Tons/yr of Coal (basis of contemporaneous increase)

10,000 Tons/yr of Coal
(potential COAL 1 usage for all boilers including Boiler 6 in backup capacity)

Process	Limited Throughput	Uncontrolled Emission Factor			Uncontrolled Emissions			Control Device	Control Efficiency			Controlled Emissions			Controlled Emission Factor		
	ton/yr	PM lb/ton	PM_{10} lb/ton	$PM_{2.5}$ lb/ton	PM ton/yr	PM_{10} ton/yr	$PM_{2.5}$ ton/yr		PM %	PM_{10} %	$PM_{2.5}$ %	PM ton/yr	PM_{10} ton/yr	$PM_{2.5}$ ton/yr	PM lb/ton	PM_{10} lb/ton	$PM_{2.5}$ lb/ton
COAL 2 Raw Coal Unloading	334,000	0.862	0.408	0.062	143.94	68.08	10.31	BH	99	99	99	1.44	0.68	0.10	0.0086	0.0041	0.0006
COAL 2 Coal Conveyors	334,000	0.862	0.408	0.062	143.94	68.08	10.31	BH	99	99	99	1.44	0.68	0.10	0.0086	0.0041	0.0006
COAL 2 Coal Precrusher	334,000	0.862	0.408	0.062	143.94	68.08	10.31	BH	99	99	99	1.44	0.68	0.10	0.0086	0.0041	0.0006
Boiler 6 Coal Storage Silo	334,000	0.862	0.408	0.062	143.94	68.08	10.31	BV	99	99	99	1.44	0.68	0.10	0.0086	0.0041	0.0006
COAL 1 Raw Coal Unloading	10,000	0.862	0.408	0.062	4.31	2.04	0.31	RC	50	50	10	2.15	1.02	0.28	0.4310	0.2038	0.0556
COAL 1 Coal Conveyors	10,000	0.862	0.408	0.062	4.31	2.04	0.31	BH	99	99	99	0.04	0.02	0.00	0.0086	0.0041	0.0006
Totals					584.39	276.40	41.86					7.96	3.76	0.69			
Proposed Emission Limits												**8.00**	**8.00**	**1.50**			

Notes:
BH = Baghouse
BV = Bin Vent
RC = Rotoclone

uncontrolled emission factors for unloading, conveyance, precrushing, and storage are from AP-42 13.2.4
Contol Efficiencies are manufacturer guarantee.
The Coal Prep system for Boiler 5 is unaffected by this modification. At no time will the coal prep system supply coal to Boiler 6.
Storage piles serve in a back up capacity for coal. The piles are not affected by changes in usage.

Methodology:
Uncontrolled Emissions (tpy) = EF (lb/ton coal) / 2000lb/ton x Throughput (ton coal/yr)
Controlled Emissions (tpy) = Uncontrolled Emissions (tpy) x (100 - CE)/100
Controlled EF (lb/ton coal) = Controlled Emissions (tpy) x 2000lb/ton / Throughput (ton coal/yr)

Per AP-42, Chapter 13.2.4 - Aggregate Handling and Storage Piles (AP-42, 01/95) the particulate emission factors for drop operations can be estimated from the following equation:

$$Ef = \frac{k \times 0.0032 \times (U/5)^{1.3}}{(M/2)^{1.4}}$$

where:
Ef = Emission factor (lbs/ton)
k = Particle size multipliers
PM = 0.74
PM_{10} = 0.35
$PM_{2.5}$ = 0.053
U = Mean wind speed (mph) = 13.4 Source = Wind Powering America, average value for Lafayette, IN
M = Moisture content (%) = 7.4% AP-42 Maximum

PM = 0.86194
PM_{10} = 0.40767
$PM_{2.5}$ = 0.06173

Ash Handling Emissions for Boiler 6

8.2 MaxTons/hr of Ash Handling
71,832 Tons/yr of Ash (for PTE basis)

Process	Throughput	Uncontrolled Emission Factor			Uncontrolled Emissions			Control Device	Control Efficiency			Controlled Emissions			Hours of Operation	Controlled Emission Rate		
		PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$		PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$		PM	PM_{10}	$PM_{2.5}$
	ton/yr	lb/ton	lb/ton	lb/ton	ton/yr	ton/yr	ton/yr		%	%	%	ton/yr	ton/yr	ton/yr	hr	lb/hr	lb/hr	lb/hr
Ash Pneumatic Conveying	71,832	3.14	1.10	1.10	112.78	39.51	39.51	BH	99	99	99	1.13	0.40	0.40	8760	0.26	0.09	0.09
Ash Storage Silo	71,832	3.14	1.10	1.10	112.78	39.51	39.51	BH	99	99	99	1.13	0.40	0.40	8760	0.26	0.09	0.09
Ash Dry Loadout	71,832	3.14	1.10	1.10	112.78	39.51	39.51	BH	99	99	99	1.13	0.40	0.40	74	30.51	10.69	10.69
Ash Conditioning	71,832	3.14	1.10	1.10	112.78	39.51	39.51	BH	99	99	99	1.13	0.40	0.40	150	15.04	5.27	5.27
Totals					451.10	158.03	158.03					4.51	1.58	1.58		46.06	16.14	16.14
Proposed Emission Limits												6.00	3.00	3.00				

Notes:
BH = Baghouse
Since ash has properties similar to cement, uncontrolled emission factors for are from AP-42 11.12-2
Contol Efficiencies are manufacturer guarantee.
Actual operating hours for dry loadout are only 10 hours per year, however, the hourly allowance was increased such that the hourly emission rate would match the allowable emission rate under 326 IAC 6-3-2.

Methodology:
Uncontrolled Emissions (tpy) = EF (lb/ton coal) / 2000lb/ton x Throughput (ton coal/yr)
Controlled Emissions (tpy) = Uncontrolled Emissions (tpy) x (100 - CE)/100
Controlled EF (lb/hr) = Controlled Emissions (tpy) x 2000lb/ton / Hours of Operation (hr/yr)

Summary of Emissions from All Emergency Generators

	EST Actual PTE tpy	MAX PTE tpy
PM (filterable)	0.22	**1.10**
PM_{10} (filterable + condensable)	0.21	**1.06**
$PM_{2.5}$ (filterable + condensable)	0.21	**1.06**
SO_2	0.49	**2.43**
NO_X	4.90	**24.49**
VOC	0.22	**1.09**
CO	1.13	**5.64**
Hazardous Air Pollutants		
Propylene	0.0032	**0.0162**
Acetaldehyde	0.0012	**0.0061**
Formaldehyde	0.0056	**0.0279**
Total HAP	0.0130	**0.0649**

Natural Gas Fired Emergency Generators

Location	Make	Model #	hp	MMBtu/hr
SWIN (ossabaw ASREC)	Katolight	N130FPG4	168	0.682
AF01,AQ R	Generac	6.4E+09	168	0.428
ASREC Dairy	NA	NA	288	0.733
Total			**624.00**	**1.843**

	Emission Factor lb/MMBtu	Emission Rate lb/hr	Est. Usage hr/yr	Est. Emission Rate tpy	Max. Usage hr/yr	Max. Emission Rate tpy
PM (filterable)	0.00999	0.02	100	0.0009	500	**0.0046**
PM_{10} (filterable + condensable)	0.00999	0.02	100	0.0009	500	**0.0046**
$PM_{2.5}$ (filterable + condensable)	0.00999	0.02	100	0.0009	500	**0.0046**
SO_2	0.000588	0.00	100	0.0001	500	**0.0003**
NO_X	4.08	7.52	100	0.38	500	**1.8804**
VOC	0.118	0.22	100	0.01	500	**0.0544**
CO	0.557	1.03	100	0.05	500	**0.2567**
Hazardous Air Pollutants						
Benzene	0.00044	8.11E-04	100	0.000041	500	0.0002
Toluene	0.000408	7.52E-04	100	0.000038	500	0.0002
Xylenes	0.000184	3.39E-04	100	0.000017	500	0.0001
Methanol	0.0025	4.61E-03	100	0.000230	500	0.0012
1,3 Butadiene	0.000267	4.92E-04	100	0.000025	500	0.0001
Formaldehyde	0.0528	9.73E-02	100	0.004867	500	**0.0243**
Acetaldehyde	0.00836	1.54E-02	100	0.000771	500	0.0039
Acrolein	0.00514	9.48E-03	100	0.000474	500	0.0024
n-Hexane	0.00111	2.05E-03	100	0.000102	500	0.0005
Total HAP	0.0712	1.31E-01	100	0.006564	500	**0.0328**

Emissions Factors from AP-42 Table 3.2-2, 4 Stroke Lean Burn Engines

Diesel Fired Emergency Generators < 600 hp

Location	Make	Model #	hp	MMBtu/hr
RAWL	Generac	2950920100	268	0.682
STDM #2	Olympia	YB51047	134	0.341
WRIT (martell forest)	Kohler	150REO2JB	201	0.512
MRGN (burton morgan)	Kohler	ROZ	13	0.033
PAO (VPA)	Generac	2704280100	268	0.682
PFEN	Kohler	50REO2JB	67	0.171
LAF, WT (water tower)	Olympian	D40P3-1	67	0.171
ERHT	Cummins	DGCB-5601474	80	0.204
FORD	Cummins	DGFC-5632356	268	0.682
FRNY (chem e add)	Caterpillar	XETF00644	335	0.853
VA2	Olympia	D60P3_1	80	0.204
VMIF	Cummins	DGDK	168	0.428
WIND (windsor hall renov)	Katolight	D200FRJ4	355	0.904
SCHW tennis	Cummins	6BTA, 9G3	168	0.428
LWSN	Cummins	NTA-855-G5/DFCE	536	1.365
HANGAR 4 (airport)	Katolight	6068TF275	141	0.359
MANN (e-entr)	Kohler	TAD1242GE	503	1.281
PRSV	Katolight	PE4020T117915	27	0.069
EE	Cummins	QSL9-G2 NP3	134	0.341
PGMD (MCutParking)	Kohler	400REOZVC	536	1.365
WDCT	Katolight	5030TF270C	54	0.137
Total			**4403**	**11.211**

	Emission Factor lb/MMBtu	Emission Rate lb/hr	Est. Usage hr/yr	Est. Emission Rate tpy	Max. Usage hr/yr	Max. Emission Rate tpy
PM (filterable)	0.31	3.48	100	0.17	500	**0.87**
PM_{10} (filterable + condensable)	0.31	3.48	100	0.17	500	**0.87**
$PM_{2.5}$ (filterable + condensable)	0.31	3.48	100	0.17	500	**0.87**
SO_2	0.29	3.25	100	0.16	500	**0.81**
NO_X	4.41	49.44	100	2.47	500	**12.36**
VOC	0.36	4.04	100	0.20	500	**1.01**
CO	0.95	10.65	100	0.53	500	**2.66**
Hazardous Air Pollutants						
Benzene	0.000933	1.05E-02	100	0.0005	500	0.0026
Toluene	0.000409	4.59E-03	100	0.0002	500	0.0011
Xylenes	0.000285	3.20E-03	100	0.0002	500	0.0008
Propylene	0.00258	2.89E-02	100	0.0014	500	**0.0072**
1,3 Butadiene	0.0000391	4.38E-04	100	0.0000	500	0.0001
Formaldehyde	0.00118	1.32E-02	100	0.0007	500	0.0033
Acetaldehyde	0.000767	8.60E-03	100	0.0004	500	0.0021
Acrolein	0.0000925	1.04E-03	100	0.0001	500	0.0003
Total PAH	0.000168	1.88E-03	100	0.0001	500	0.0005
Total HAP	0.0065	7.24E-02	100	0.0036	500	**0.0181**

Emissions Factors from AP-42 Table 3.2-1, 2

Diesel Fired Emergency Generators > 600 hp

Location	Make	Model #	hp	MMBtu/hr
STDM #1	Caterpillar	3412	738	1.879
DAUC (Alumni Center)	Caterpillar	3456 S/N: CER00435 ESO: NRGGQ	671	1.709
BIND (bindley biosci)	Caterpillar	CAT 3456, SEA00596	603	1.535
BRK (nanotech)	Caterpillar	SR4B	1341	3.415
MJIS (biomed)	Caterpillar	CAT 3412TA	1006	2.562
ARMS	Caterpillar	3456	671	1.709
Total			**5030**	**12.808**

	Emission Factor lb/MMBtu	Emission Rate lb/hr	Est. Usage hr/yr	Est. Emission Rate tpy	Max. Usage hr/yr	Max. Emission Rate tpy
PM (filterable)	0.0697	0.89	100	0.04	500	**0.22**
PM_{10} (filterable + condensable)	0.0573	0.73	100	0.04	500	**0.18**
$PM_{2.5}$ (filterable + condensable)	0.0573	0.73	100	0.04	500	**0.18**
SO_2	0.505	6.47	100	0.32	500	**1.62**
NO_X	3.2	40.98	100	2.05	500	**10.25**
VOC	0.0081	0.10	100	0.01	500	**0.03**
CO	0.85	10.89	100	0.54	500	**2.72**
Hazardous Air Pollutants						
Benzene	0.000776	9.94E-03	100	0.0005	500	0.0025
Toluene	0.000281	3.60E-03	100	0.0002	500	0.0009
Xylenes	0.000193	2.47E-03	100	0.0001	500	0.0006
Propylene	0.00279	3.57E-02	100	0.0018	500	**0.0089**
Formaldehyde	0.0000789	1.01E-03	100	0.0001	500	0.0003
Acetaldehyde	0.0000252	3.23E-04	100	0.0000	500	0.0001
Acrolein	7.88E-06	1.01E-04	100	0.0000	500	0.0000
Total PAH	0.000212	2.72E-03	100	0.0001	500	0.0007
Total HAP	0.0044	5.59E-02	100	0.0028	500	**0.0140**

Emissions Factors from AP-42 Table 3.4-1, 2, 3, 4
SO_2 emission factor is calculated as 1.01 x S, where S = 0.5 %

Poultry Incinerator Emissions

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Units	Source of EF	Potential to Emit PM (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)	SO_2 (TPY)	NOx (TPY)	VOC (TPY)	CO (TPY)
Animal Incinerator	306.6	PM	0.024	lb/hr	Stack Test data from a similar unit	0.1051	0.1051	0.1051	0.3327	0.5457	0.0458	0.0263
	tpy	PM_{10}	0.024	lb/hr	Assumed the same as PM emissions							
Capacity: 70 lb/hr		$PM_{2.5}$	0.024	lb/hr	Assumed the same as PM emissions							
8760 hr/yr		SO_2	2.17	lb/ton	AP-42 Table 2.3-1							
306.6 ton/yr		NO_X	3.56	lb/ton	AP-42 Table 2.3-1							
		VOC	0.299	lb/ton	AP-42 Table 2.3-2							
		CO	0.006	lb/hr	Stack Test data from a similar unit							
Animal Incinerator (fuel oil)	0.00285	PM	2.00	lb/kgal	AP-42 Table 1.3-6	0.0250	0.0125	0.0031	0.8863	0.2497	0.0042	0.0624
	kgal/hr	PM_{10}	1.00	lb/kgal	AP-42 Table 1.3-6							
Capacity: 1.5 gal/hr (primary)		$PM_{2.5}$	0.25	lb/kgal	AP-42 Table 1.3-6							
1.35 gal/hr (afterburner)		SO_2	142	x S lb/kgal	AP-42 Table 1.3-1							
2.85 gal/hr (total)		NO_X	20	lb/kgal	AP-42 Table 1.3-1							
Sulfur Content (S) = 0.5 %		VOC	0.34	lb/kgal	AP-42 Table 1.3-3							
		CO	5	lb/kgal	AP-42 Table 1.3-1							
Total Emissions						**0.13**	**0.12**	**0.11**	**1.22**	**0.80**	**0.05**	**0.09**

Natural Gas Fired Combustion (for boilers replaced in past 5 years)

ID	Location	Natural Gas Boilers	
ZL3	Zucrow Labs	2 @ 0.745 MMBtu/hr =	1.49 MMBtu/hr
B601	Baker Farm	2 @ 0.1 MMBtu/hr =	0.2 MMBtu/hr
B404	Baker Farm	4 @ 0.15 MMBtu/hr =	0.6 MMBtu/hr
B405	Baker Farm	4 @ 0.1 MMBtu/hr =	0.4 MMBtu/hr
CHAF	Chaffee	2 @ 0.327 MMBtu/hr =	0.654 MMBtu/hr
SLAY-DAIRY	Slayton Dairy Farm	2 @ 0.751 MMBtu/hr -	1.502 MMBtu/hr
		TOTALS	**4.846 MMBtu/hr**

Fuel Consumption:

Natural Gas - Heat content =	1020 Btu/cu ft
Fuel Feed Rate =	0.00475 mmcf/hr

Pollutant	Maximum rate (mmcf/hr)	Emission Factor (lb/mmcf)	Emission Rate (lb/hr)	Maximum Uncontrolled Emissions (ton/yr)	Maximum Actual Emissions* (ton/yr)
PM	0.00475	7.6	0.0361	0.158	0.066
PM_{10}	0.00475	7.6	0.0361	0.158	0.066
$PM_{2.5}$	0.00475	7.6	0.0361	0.158	0.066
SO_2	0.00475	0.6	0.0029	0.012	0.005
NOx	0.00475	100	0.4751	2.081	0.867
VOC	0.00475	5.5	0.0261	0.114	0.048
CO	0.00475	84	0.3991	1.748	0.728
Lead	0.00475	5.00E-04	2.38E-06	1.04E-05	4.34E-06
Beryllium	0.00475	1.20E-05	5.70E-08	2.50E-07	1.04E-07
Mercury	0.00475	2.60E-04	1.24E-06	5.41E-06	2.25E-06
Total HAP	0.00475			1.61E-05	6.69E-06

* Based on a maximum of five months of operation

AP-42 Emission Factors, Tables 1-4.1,4.2,4.4

PSD Baselines for SO_2, NOx, PM_{10}, & PM for Existing Boiler 1

The Average Annual Total (tpy) is calcualted as the sum of the monthly totals for 24 months, divided by 2.

NO_X (tons/month) *			
Year	Month	Boiler 1	Average Annual Total (tpy, from 2yr Total)
2004	January	31.71	
2004	February	32.65	
2004	March	24.58	
2004	April	38.67	
2004	May	32.78	
2004	June	31.36	
2004	July	34.03	
2004	August	34.79	
2004	September	39.02	
2004	October	27.82	
2004	November	12.69	
2004	December	35.69	
2005	January	36.00	
2005	February	30.41	
2005	March	38.87	
2005	April	35.80	
2005	May	32.64	
2005	June	26.85	
2005	July	27.92	
2005	August	27.80	
2005	September	18.12	
2005	October	11.24	
2005	November	18.92	
2005	December	26.49	353.44

* All emission rates are based on CEM data

SO_2 (tons/month) *			
Year	Month	Boiler 1	Average Annual Total (tpy, from 2yr Total)
2004	March	105.21	
2004	April	121.83	
2004	May	109.46	
2004	June	89.71	
2004	July	107.40	
2004	August	114.12	
2004	September	113.96	
2004	October	103.78	
2004	November	53.17	
2004	December	113.02	
2005	January	123.40	
2005	February	117.02	
2005	March	138.18	
2005	April	153.61	
2005	May	180.06	
2005	June	149.82	
2005	July	135.60	
2005	August	137.72	
2005	September	80.31	
2005	October	48.96	
2005	November	77.41	
2005	December	153.44	
2006	January	137.86	
2006	February	115.33	1390.19

* All emission rates are based on CEM data

CO (tons/month) *			
Year	Month	Boiler 1 Heating	Unit 1 Avg Annual Total (tpy, from 2yr Total)
2004	February	25.36	
2004	March	22.38	
2004	April	31.30	
2004	May	26.88	
2004	June	24.93	
2004	July	25.49	
2004	August	28.27	
2004	September	27.71	
2004	October	22.46	
2004	November	10.27	
2004	December	26.94	
2005	January	29.74	
2005	February	24.68	
2005	March	30.08	
2005	April	25.77	
2005	May	27.56	
2005	June	27.88	
2005	July	27.26	
2005	August	28.52	
2005	September	19.14	
2005	October	13.53	
2005	November	18.27	
2005	December	27.31	
2006	January	25.63	298.68

* emission rates are based on 5/09 stack testing constant of 0.417 lb/MMBtu

PSD Baselines for SO_2, NOx, PM_{10}, & PM for Existing Boiler 1

The Average Annual Total (tpy) is calcualted as the sum of the monthly totals for 24 months, divided by 2.

PM (tons/month) *			
Year	*Month*	*Boiler 1 Heating*	*Average Annual Total (tpy, from 2yr Total)*
2004	February	35.76	
2004	March	31.55	
2004	April	44.13	
2004	May	37.90	
2004	June	35.15	
2004	July	35.94	
2004	August	39.87	
2004	September	39.07	
2004	October	31.66	
2004	November	14.48	
2004	December	37.99	
2005	January	41.94	
2005	February	34.80	
2005	March	42.41	
2005	April	36.34	
2005	May	38.87	
2005	June	39.32	
2005	July	38.43	
2005	August	40.22	
2005	September	26.99	
2005	October	19.07	
2005	November	25.77	
2005	December	38.51	
2006	January	36.15	421.17

* All heating emission rates are based on 11/1/2004 stack testing constant of 0.588 lb/MMBtu

PM_{10} (tons/month) *			
Year	*Month*	*Boiler 1 Heating*	*Average Annual Total (tpy, from 2yr Total)*
2004	February	25.61	
2004	March	22.59	
2004	April	31.60	
2004	May	27.14	
2004	June	25.17	
2004	July	25.73	
2004	August	28.55	
2004	September	27.98	
2004	October	22.67	
2004	November	10.36	
2004	December	27.20	
2005	January	30.03	
2005	February	24.92	
2005	March	30.37	
2005	April	26.02	
2005	May	27.83	
2005	June	28.15	
2005	July	27.52	
2005	August	28.80	
2005	September	19.33	
2005	October	13.66	
2005	November	18.45	
2005	December	27.57	
2006	January	25.88	301.55

* All heating emission rates are based on 11/08 stack testing constant of 0.421 lb/MMBtu

$PM_{2.5}$ (tons/month) *			
Year	*Month*	*Boiler 1 Heating*	*Average Annual Total (tpy, from 2yr Total)*
2004	February	15.94	
2004	March	14.06	
2004	April	19.66	
2004	May	16.89	
2004	June	15.66	
2004	July	16.02	
2004	August	17.76	
2004	September	17.41	
2004	October	14.11	
2004	November	6.45	
2004	December	16.93	
2005	January	18.69	
2005	February	15.51	
2005	March	18.90	
2005	April	16.19	
2005	May	17.32	
2005	June	17.52	
2005	July	17.12	
2005	August	17.92	
2005	September	12.03	
2005	October	8.50	
2005	November	11.48	
2005	December	17.16	
2006	January	16.11	187.66

* All heating emission rates are based on 11/08 stack testing constant of 0.262 lb/MMBtu

PM Factor = 0.588 lb/MMBtu
Be Factor = 5.37E-05 lb/MMBtu
Be 2-Yr Average = 0.03848 tons/yr

PM_{10} Factor = 0.421 lb/MMBtu

$PM_{2.5}$ Factor = 0.262 lb/MMBtu

Be Methodology: Be 2-Yr Average (tpy) = PM 2-Yr Average (tpy) / PM Factor (lb/MMBtu) x Be Factor (lb/MMBtu)

*** Beryllium Emission Factor (AP-42 Table 1.1-16)**

Beryllium Emission Equation ($lb/10^{12}$) = $1.2*(C/A * PM)^{1.1}$

Where: C = concentration of metal in the coal, parts per million by weight (ppmwt) =	3.2	ppm*	*Average Be Content For Source of Coal Sampling (From July 22, 2003)
A = wt. fraction of ash in coal. For example, 10% ash is 0.1 x ash fraction =	0.0594		
PM = Site specific emission factor for total particulate matter, $lb/10^6$ Btu =	0.588		11/1/2004 stack test

Be ($lb/10^{12}$ Btu) = 53.72
= 5.37E-05

PSD Netting Baseline for PM_{10} for Boiler 1 Coal & Ash Handling

Date	Coal Usage (ton/mth)	Ash Content As Recvd (%)	Ash Handled (ton/month)
Feb-04	5199	4.76	247
Mar-04	4651	6.26	291
Apr-04	6375	5.27	336
May-04	5450	5.14	280
Jun-04	5169	5.96	308
Jul-04	5296	6.26	332
Aug-04	5682	4.93	280
Sep-04	5674	5.96	338
Oct-04	4588	5.22	239
Nov-04	2164	6.44	139
Dec-04	5573	5.86	327
January-05	6204	6.06	376
February-05	5129	6.8	349
March-05	6005	5.38	323
April-05	5217	5.49	286
May-05	5700	6.53	372
June-05	5608	5.42	304
July-05	5519	5.49	303
August-05	5742	5.33	306
September-05	3960	5.64	223
October-05	2790	5.66	158
November-05	3854	6.05	233
December-05	5872	7.68	451
January-06	5611	8.93	501
Average Annual Total During Baseline Period (ton/yr)	**61,516**	**NA**	**3,652**

Average Ash Content	5.94 %

326 IAC 6 Particulate Rules

326 IAC 6-2 Evaluation

Boilers	Installation Date	Rating (MMBtu/hr)	Q (MMBtu/hr)	Pt (lb/MMBtu)	Applicable Rule
Boiler 1	1960	281	555	0.64	326 IAC 6-2-3
Boiler 2	1967	274	555	0.64	326 IAC 6-2-3
Boiler 3*	1973	286	841		NSPS D
Boiler 5**	1989	279	1,132		NSPS Db
Boiler 6**	2009	380	1,802		NSPS Db
Boiler 7**	2009	290	1,802		NSPS Db
NG combustion	existing	10	853	0.19	326 IAC 6-2-4
FO combustion	existing	2	853	0.19	326 IAC 6-2-4

* Per 326 IAC 6-2-1(f), for Boiler 3, the emission limit in 40 CFR 60, Subpart D, prevails.
** Per 326 IAC 6-2-1(f), for Boiler 5, Boiler 6, and Boiler 7, the emission limit in 40 CFR 60, Subpart Db, prevails.

[326 IAC 6-2-4]

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where: 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).
$Q_{B5} = Q_{B1} + Q_{B2} + Q_{B3} + Q_{B5} + Q_{ng} + Q_{fo}$
$Q_{B6/A} = Q_{B1} + Q_{B2} + Q_{B3} + Q_{B5} + Q_{B6} + Q_{BA} + Q_{ng} + Q_{fo}$

[326 IAC 6-2-3]

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

Where: Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).
C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal **50** μ/m^3 for a period not to exceed 60 minutes. **50**
a = Plume rise factor. The value **0.67** shall be used for Q less than or equal to 1000 MMBtu/hr. The value 0.8 shall be used for Q greater than 1000 MMBtu/hr. **0.67**
h = Stack height in feet. **200**
N = Number of stacks in fuel burning operation. **2** Q_{B1}, Q_{B2}; **3** Q_{B1}, Q_{B2}, Q_{B3}

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr).
$Q_{B1} = Q_{B1} + Q_{B2}$
$Q_{B2} = Q_{B1} + Q_{B2}$
$Q_{B3} = Q_{B1} + Q_{B2} + Q_{B3}$

$$h = \frac{\sum_{i=1-N} (H_i \times pa_i \times Q)}{\sum_{i=1-N} (pa_i \times Q)} = 200$$

Boilers	Stack	Stack Height	Q (MMBtu/hr)	pa (lb/MMBtu)	pa x Q (lb/hr)	H x pa x Q (ft-lb/hr)
Boiler 1	WADE 01	200	281	0.6	174.0	34,803.2
Boiler 2	WADE 02	200	274	0.5	142.4	28,485.9
Boiler 3	WADE 03	200	286	0.2	56.1	11,227.7
					372.6	74,516.8

326 IAC 6-3-2 Particulate Emission Rate Limitations

PM Control Device	Stack/Vent	Process	Process Weight P (ton/hr)	Emission Rate E (lb/hr)
ESP/BH	WADE 01	Boiler 1	12.77	22.59
BH	WADE 02	Boiler 2	12.45	22.22
BH	WADE 05	Boiler 5	12.68	22.49
BH	WADE 01	Boiler 6	17.27	27.66
RotoClone	CB1, CB2	COAL Segment 1 for Boilers 1, 2, & 6	110	52.24
3 BH	CV1, CV2, CV3	COAL Segment 2 for Boiler 5	107	51.96
BH	CB5	Coal Prep for Boiler 5	12.68	22.48
BH	ASH1, AB1	ASH Segment 1 for Boilers 1 & 2	14	24.03
BH	ASH5A, ASH5B, ASH5C	ASH Segment 2 for Boilers 5 & 6	20	30.51
Bin Vent & BH	BVLI6 & VLC6	Limestone Handling for Boilers 5 & 6	12.50	22.27

Methodology:
E = Rate of Emission in pounds per hour
P = Process Weight Rate in tons per hour
P>60,000 lb/hr E = 55 P^0.11 - 40
P<=60,000 lb/hr E = 4.10 P^0.67

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

July 9, 2010

TO: West Lafayette Public Library

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

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

Applicant Name: Purdue University
Permit Number: 157-27361-00012

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

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

Enclosures
Final Library.dot 11/30/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Commissioner

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Toll Free (800) 451-6027
www.idem.IN.gov

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

TO: Robin Mills Ridgway
Purdue University
550 Stadium Mall Drive Civil Engineering Building B173
West Lafayette, IN 47907

DATE: July 9, 2010

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

SUBJECT: Final Decision
Title V
157-27361-00012

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

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

A copy of the final decision and supporting materials has also been sent via standard mail to:
Robert E. McMains, Responsible Official
David Jordan, Consultant ERM
OAQ Permits Branch Interested Parties List

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

Final Applicant Cover letter.dot 11/30/07

Mail Code 61-53

IDEM Staff	DPABST 7/8/2010 Purdue University 157-27361-00012 (Final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Robin Mills Ridgway Purdue University 550 Stadium Mall Dr, Civil Engineering Bldg, B173 W Lafayette IN 47907-2051 (Source CAATS) (CONFIRM DELIVERY)									
2		Robert E McMains VP for Physical Facilities Purdue University 401 S Grant St, Freehafer Hall West Lafayette IN 47907-2024 *(RO CAATS)*									
3		Ms. Anna Cicirelli P.O. Box 289, 102 Tipton Street Battleground IN 47920 *(Affected Party)*									
4		Mr. Charles L. Berger Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 *(Affected Party)*									
5		Tippecanoe County Commissioners 20 N 3rd St, County Office Building Lafayette IN 47901 *(Local Official)*									
6		Tippecanoe County Health Department 20 N. 3rd St Lafayette IN 47901-1211 *(Health Department)*									
7		Lafayette City Council and Mayors Office 20 North 6th Street Lafayette IN 47901-1411 *(Local Official)*									
8		Ms. Sharon McKnight 909 Southernview Drive North Lafayette IN 47909 *(Affected Party)*									
9		Ms. Dorothy Whicker 2700 Bonny Lane Lafayette IN 47904 *(Affected Party)*									
10		Tom Pierce Sr. 5115 N 510E Lafayette IN 47905 *(Affected Party)*									
11		Ms. Geneva Werner 3212 Longlois Drive Lafayette IN 47904-1718 *(Affected Party)*									
12		Mr. Thomas Ruzicka 3509 Pine Lane Lafayette IN 47905 *(Affected Party)*									
13		Mrs. Phyllis Owens 3600 Cypress Lane Lafayette IN 47905 (Affected Party)									
14		Mr. Jerry White 1901 King Eider Ct West Lafayette IN 47906 *(Affected Party)*									
15		West Lafayette Public Library 208 W Columbus St West Lafayette IN 47906-3096 *(Library)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

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1		Rose 5839 Lookout Drive West Lafayette IN 47906 (Affected Party)									
2		Mr. William Cramer 128 Seminole Drive West Lafayette IN 47906 *(Affected Party)*									
3		Mr. Robert Kelley 2555 S 30th Street Lafayette IN 44909 *(Affected Party)*									
4		David Jordan Environmental Resources Management (ERM) 11350 North Meridian, Ste. 220 Carmel IN 46032 *(Consultant)*									
5		West Lafayette City Council and Mayors Office 609 W. Navajo West Lafayette IN 47906 *(Local Official)*									
6		Mr. David Byers Tippecanoe County 6251 N 450 W West Lafayette IN 47906 *(Affected Party)*									
7		KD Benson Tippecanoe County Commissioner 20 N. 3rd Street, 1st Floor Lafayette IN 47901 *(Affected Party)*									
8		Ron Highland 20 N. 3rd Street, Basement Floor Lafayette IN 47901 *(Affected Party)*									
9		Ms. Linda Phillips 301 Main Street, 2nd Floor Lafayette IN 47902 *(Affected Party)*									
10		James Giampietro Sierra Club Environmental Law Program 85 Second St 2nd Floor San Francisco CA 94105 *(Affected Party)*									
11		Mr. Ephram Fischback 5821 Farm Ridge Road West Lafayette IN 4797 *(Affected Party)*									
12		Mr. Michael A Mullett 723 Lafayette Columbus IN 47201 *(Affected Party)*									
13		Mr. Tim Volkman 1004 N Grant St West Lafayette IN 47906 (Affected Party)									
14		Mrs. Beverly Volkman 1004 N Grant St West Lafayette IN 47906 *(Affected Party)*									
15		Mr. Eric Weddle 217 North Sixth St Lafayette IN 47901 *(Affected Party)*									

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1		Cynthia 1301 Center St Lafayette IN 47905 (Affected Party)									
2		Ms. Diane Damico 128 Blackhawk West Lafayette IN 47906 *(Affected Party)*									
3		Mr. Michael Naylor 2103 Edgewood Drive West Lafayette IN 47906 *(Affected Party)*									
4		Mr. Mick Lahopa 2109 Edgewood Drive West Lafayette IN 47906 *(Affected Party)*									
5		Ms. Margaret McCabe 4000 Jennie Lou Drive Lafayette IN 47905 *(Affected Party)*									
6		Ms. Gladys Wright 345 Overlook Drive Lafayette IN 47905 *(Affected Party)*									
7		Mr. Martin Patchen 1133 Glenway St W Lafayette IN 47906 *(Affected Party)*									
8		Ms. Sheila Rosenthal 2856 Ashland Street West Lafayette IN 47906 *(Affected Party)*									
9		Mr. Richard Mertans 4650 N 250 West West Lafayette IN 47906 *(Affected Party)*									
10		Mr. John Thomas 148 Seneca Lane West Lafayette IN 47906 *(Affected Party)*									
11		Mr. Paul Roales 116 Rockland West Lafayette IN 47906 *(Affected Party)*									
12		Ms. Elizabeth Solberg 4030 Sylvan Trail West Lafayette IN 47906 *(Affected Party)*									
13		Mr. Larry Davis 268 South 600 West Hebron IN 46341 (Affected Party)									
14		Alexis Boxer Sierra Student Coalition 2301 E. 2nd Street Apt. 21 Bloomington IN 47401 *(Affected Party)*									
15		Mr. Steve Francis Sierra Club - Hoosier Chapter 54174 Juday Lake Drive South Bend IN 46635 *(Affected Party)*									

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1		Charles 9112 Behner Brook Drive Indianapolis IN 46250 (Affected Party)									
2		Johnathon Stults 401 Harrison Street #3A West Lafayette IN 47806 *(Affected Party)*									
3		Anne Murphy-Kline POB 116 Battle Ground IN 47920 *(Affected Party)*									
4		Marc Clements 1436 Santana Lafayette IN 47905 *(Affected Party)*									
5		Marilyn McBride 2125 Elk Street Lafayette IN 47904 *(Affected Party)*									
6		Daniel Shigman 2125 Elk Street Lafayette In 47904 *(Affected Party)*									
7		Aaran Cook 9 Currency Drive Apt 407 Bloomington IN 61704 *(Affected Party)*									
8		Matt McDonald 3309 Peppermill Apt 1-D West Lafayette IN 47906 *(Affected Party)*									
9		Vanessa POB 4421 Lafayette IN 47903 *(Affected Party)*									
10		Kirby Fenton 3872 Campus Suites Blvd West Lafayette IN 47906 *(Affected Party)*									
11		Ashley Bridges 2556 Madrono Drive West Lafayette IN 47906 *(Affected Party)*									
12		Amanda Nading 205 N Russell West Lafayette IN 47906 *(Affected Party)*									
13		Tiffany Lehman 63311 CR 17 Goshen IN 46526 (Affected Party)									
14		Jeff Shultz 172 Littleton West Lafayette IN 47906 *(Affected Party)*									
15		Chelsea Noffsinger 250 Sheetz St West Lafayette IN 47906 *(Affected Party)*									

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1		Samantha 1311 S 22nd Street Lafayette IN 47904 (Affected Party)									
2		Katie & Jeremy Anderson 1007 State Street, Apt. 4 Lafayette IN 47904 *(Affected Party)*									
3		Falon French 130 E. Navajo Street West Lafayette IN 47906 *(Affected Party)*									
4		Amy & Gerald Van Horn PO Box 504 Dayton IN 47941 *(Affected Party)*									
5		Mr. Lawrence Leung 1st St. Towers E 413 1250 1st St. W. Lafayette In 47906 *(Affected Party)*									
6		David Rosenthal 2850 Ashkind Street West Lafayette IN 47906 *(Affected Party)*									
7		Ms. Alexandra Burns Hawkins Hall 430 Woods St. W. Lafayette IN 47906 *(Affected Party)*									
8		Gwenyth Catlin 6219 Huston Road West Lafayette IN 47906 *(Affected Party)*									
9		Mary Campell 329 Leslie Ave West Laffayette IN 47906 *(Affected Party)*									
10		Ms. Carmen Huffman 5220 N. CR 500 W Muncie IN 47304 *(Affected Party)*									
11		Bruce Bresnahan 3029 Commanche Trl Lafayette IN 47904 *(Affected Party)*									
12		Mr. Ahmed Baig 144 Halsey Dr. W. Lafayette IN 47906 *(Affected Party)*									
13		Mr. Javon Serff 230 Marsteller St. W. Lafayette IN 47906 (Affected Party)									
14		Ms. Taryn Gerber 230 Marsteller St. W. Lafayette IN 47906 *(Affected Party)*									
15		Mr. Hassan Tariq 233 DeHart St. W. Lafayette In 47906 *(Affected Party)*									

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1		Alvin 709 N 22nd Street Lafayette IN 47904 (Affected Party)									
2		Mr. Joel Galos Rm. 608 Earhart Hall 1275 1st St. W. Lafayette In 47906 *(Affected Party)*									
3		John Barrus 5128 Sprinter Court Lafayette IN 47904 *(Affected Party)*									
4		Ms. Heather Huhster 579 Banburg Rd Noblesville IN 46062 *(Affected Party)*									
5		Ms. Stephanie Preston 811 S. 9th St. Lafayette IN 47901 *(Affected Party)*									
6		Mr. Douglas Morrison 127 Knox Dr. W. Lafayette IN 47906 *(Affected Party)*									
7		Ms. Wendy Madore 1701 Stonegate Circle Lafayette IN 47901 *(Affected Party)*									
8		Ms. JoAnn Mullen 4106 Cheyenne Dr. Lafayette In 47901 *(Affected Party)*									
9		Ms. Cecelia McAllister 7613 N. 300 E. Battle Ground IN 47920 *(Affected Party)*									
10		Mr. Mark Owens 1275 1st St. Earhart Hall W. Lafayette IN 47906 *(Affected Party)*									
11		Mr. Muhammed Khan 414 Russell St. W. Lafayette IN 47906 *(Affected Party)*									
12		Mr. Phil Herrold 6802 W. 250 S. LaPorte In 46350 *(Affected Party)*									
13		Mr. W. R. Orly 8293 Blaine Pl. Crown Point In 46307 (Affected Party)									
14		Ms. Lauren Stuart 1629 S. 6th St. Terre Haute IN 47802 *(Affected Party)*									
15		Mr. Roger & Lana Callahan 1024 N. 10th St. Lafayette In 47904 *(Affected Party)*									

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1		Earl 4404 Oak Hill Dr. Lafayette In 47904 (Affected Party)									
2		Mrs. Jacqueline Lambuth 4404 Oak Hill Dr. Lafayette In 47904 *(Affected Party)*									
3		Ms. Meg Babcock 3508 Mulberry Dr. Lafayette IN 47904 *(Affected Party)*									
4		Patt 231 Vicksburg Ln. West Lafayette IN 47906 *(Affected Party)*									
5		Mr. Sheik Ahaibleme 1714 B. N. Chauncey Ct. Lafayette IN 47905 *(Affected Party)*									
6		Ms. Hannah Buchanan 112 E. Wood St. W. Lafayette In 47906 *(Affected Party)*									
7		Shannon Lapsley 7091 W. 1000 N. Demotte IN 46310 *(Affected Party)*									
8		Connor 14 N. 9th Street Lafayette IN 47901 *(Affected Party)*									
9		Mr. John DAllesandro 215 Littleton St. W. Lafayette In 47906 *(Affected Party)*									
10		Nathan Claus 5912 Silas Moffine Way Carmel IN 46033 *(Affected Party)*									
11		Adam White 1310-312 Palmer Dr. West Lafayette IN 47906 *(Affected Party)*									
12		Ms. Katherine Losekamp 108 S. River Rd. # 412 W. Lafayette IN 47906 *(Affected Party)*									
13		Ms. Katie Arnold 11322 Bass Rd, Ft, Wayne IN 46818 (Affected Party)									
14		Ms. Crissy McMartin-Miller 2870 Yeager Rd. W Lafayette In 47906 *(Affected Party)*									
15		Larry McAgee 651 Eastport Centre Dr. Valparaiso IN 46383 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

FACSIMILIE OF PS Form 3877

Mail Code 61-53

IDEM Staff	DPABST 7/8/2010 Purdue University 157-27361-00012 (Final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Stephanie 1664 Chauncey Ct. W. Lafayette IN 47905 (Affected Party)									
2		Alexandra Lanza 915 N. 6th St. #2 Lafayette IN 47904 *(Affected Party)*									
3		Ms. Elizabeth Garland 802 N. 9th St. Apt. 9 Lafayette IN 47904 *(Affected Party)*									
4		Mr. Patrick Kearney 672 Ferry St. Lafayette IN 47904 *(Affected Party)*									
5		Claire Loser 6780 Sleeper Rd. Lafayette IN 47909 *(Affected Party)*									
6		Mr. Austin Finn 802 N. 9th st. Lafayette IN 47904 *(Affected Party)*									
7		Ms. Tanya Nagasani 6861 N. Tonty Chicago Il 60646 *(Affected Party)*									
8		Paolo Riva 132 S. 26th Lafayette IN 47904 *(Affected Party)*									
9		Ashen H. 128 Andrew Place West Lafayette IN 47906 *(Affected Party)*									
10		Timmy Lewis 330 Sylvia Street West Lafayette IN 47906 *(Affected Party)*									
11		Connor Graham 506 Portledse Commons #14 Lafayette IN 47904 *(Affected Party)*									
12		Alyssa Turk 16 Woodruft Drive Valparaiso IN 46385 *(Affected Party)*									
13		Dreana Love 2201 Raymond Dr., B2 Lafayette IN 47909 (Affected Party)									
14		Sarah Deitz 2116 McCormick Rd. #506 West Lafayette IN 47906 *(Affected Party)*									
15		Rachel Hadley 201 Waldron St. West Lafayette IN 47906 *(Affected Party)*									

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1		Mollie 18140 Fairhomes Ln Deephaven MN 55391 (Affected Party)									
2		Melissa Switt 2803 S. Beck Ln., #9 Lafayette IN 47909 *(Affected Party)*									
3		1301 3rd St. West Lafayette IN 47906 *(Affected Party)*									
4		Ashton Francis 120 Sylvia St. #3 West Lafayette IN 47906 *(Affected Party)*									
5		Corey Van Hoosier 2601 Soldiers Home Road West Lafayette IN 47906 *(Affected Party)*									
6		Turgay Burgindie 1309 Sunset Lane West Lafayette IN 47906 *(Affected Party)*									
7		Steve Lincoln 2517 S 9th Street Lafayette IN 47904 *(Affected Party)*									
8		Kahleen Coffee 2921 Beverly Lane Lafayette IN 47904 *(Affected Party)*									
9		Deva Chan 3620 Tesla Drive West Lafayette IN 47906 *(Affected Party)*									
10		Carter Duggan 2112 McCormick Road, Apt 333 West Lafayette IN 47906 *(Affected Party)*									
11		Joe & Bettie Rubinstein 2590 N. River Road West Lafayette IN 47906 *(Affected Party)*									
12		Sheri Posey 1319 Pansalla Drive West Lafayette IN 47906 *(Affected Party)*									
13		April Quesada 19 Point East Lafayette IN 47905 (Affected Party)									
14		Murat Erer 201 Northwestern Ave, Apt. 19 West Lafayette IN 47906 *(Affected Party)*									
15		Mia Lewis 935 N. Chancey Ave West Lafayette IN 47906 *(Affected Party)*									

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1		Alexa 440 S. Grant Street Apt. 10 West Lafayette IN 47906 (Affected Party)									
2		Pranav Kothare 3328 Webster Street West Lafayette IN 47906 *(Affected Party)*									
3		Carmen Martin 244 S Grant Apt 1 West Lafayette IN 47906 *(Affected Party)*									
4		Kelly Clapp 1275 Third Street West Lafayette IN 47906 *(Affected Party)*									
5		Matthew Hotlman 5267 Green Hills Drive Brwonsburg IN 46112 *(Affected Party)*									
6		Zachary Szep 1039 Hawkins Hall 430 Wood Street West Lafayette IN 47906 *(Affected Party)*									
7		Meahgan Wallace 1250 1st Street Rm E 480 West Lafayette IN 47906 *(Affected Party)*									
8		Al Momin 318 N. River Road West Lafayette IN 47906 *(Affected Party)*									
9		Justin Wasser 94 West State Street Lafayette IN 47904 *(Affected Party)*									
10		Stacey Boxer 112 Wiggins Street West Lafayette IN 47906 *(Affected Party)*									
11		Peter Scheiblechner 1833 Summit Drive West Lafayette IN 47906 *(Affected Party)*									
12		Brittany Daniel 320 Brown Street West Lafayette IN 47906 *(Affected Party)*									
13		Varun Ramamohan 443 Harrison Street, Apt 5 West Lafayette IN 47906 (Affected Party)									
14		Nathan Claus 5912 Silas Moffitt Way Carmel IN 46033 *(Affected Party)*									
15		Maria S. Sepilneda 195 Marsteller Street West Lafayette IN 47907 *(Affected Party)*									

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1		Lisa 143 Halsey Drive Apartment 4 West Lafayette IN 47906 (Affected Party)									
2		Katie Jones 104 Winding Way Lebanon IN 46502 *(Affected Party)*									
3		Chuck R. Chamber 201 Waldron Road West Lafayette IN 47906 *(Affected Party)*									
4		Margaret Booker 1110 S. Jay Street Kokomo IN 46902 *(Affected Party)*									
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