



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

To: Interested Parties

Date: November 20, 2015

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

Source Name: Indianapolis Power & Light Company - Petersburg Generating Station

Permit Level: Title V - Minor Permit Modification

Permit Number: 125 - 36156 - 00002

Source Location: 6925 N. State Road 57, Petersburg, Indiana

Type of Action Taken: Modification at an existing source

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 matter referenced above.

The final decision is available on the IDEM website at: <http://www.in.gov/apps/idem/caats/>
To view the document, select Search option 3, then enter permit 36156.

If you would like to request a paper copy of the permit document, please contact IDEM's central file room:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

(continues on next page)

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 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 Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) 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.

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

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

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

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



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November 20, 2015

Jeffrey A. Harter
IPL - Petersburg Generating Station
6925 North State Road 57
Petersburg, IN 47567

Re: 125-36156-00002
Minor Permit Modification to
Part 70 Renewal No.: T125-30045-00002

Mr. Harter:

Indianapolis Power & Light (IPL) - Petersburg Generating Station was issued a Part 70 Operating Permit Renewal No. T125-30045-00002 on July 18, 2013 for a stationary electric power generating plant located at 6925 North State Road 57, Petersburg, Indiana 47567. An application requesting changes to this permit was received on August 6, 2015. Pursuant to the provisions of 326 IAC 2-7-12, a Minor Permit Modification to this permit is hereby approved as described in the attached Technical Support Document.

Please find attached the entire Part 70 Operating Permit as modified. The permit references the below listed attachment(s). Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this modification:

- Attachment A: Extension of Time Request
- Attachment B: Fugitive Dust Control Plan
- Attachment C: Acid Rain Permit
- Attachment D: NSPS 40 CFR Part 60, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators
- Attachment E: NSPS 40 CFR Part 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants
- Attachment F: NESHAP 40 CFR 63, Subpart ZZZZ, Stationary Reciprocating Internal Combustion Engines
- Attachment G: NESHAP 40 CFR 63, Subpart UUUUU, Coal- and Oil-Fired Electric Utility Steam Generating Units
- Attachment H: IPL Petersburg - EPA Approval of Alternate Compliance

Previously issued approvals for this source containing these attachments are available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

Federal rules under Title 40 of United States Code of Federal Regulations may also be found on the U.S. Government Printing Office's Electronic Code of Federal Regulations (eCFR) website, located on the Internet at: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl.

A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

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 Anh Nguyen, of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251 at 317-233-5334 or 1-800-451-6027, and ask for extension 3-5334.

Sincerely,



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

Attachments: Modified Permit and Technical Support Document

cc: File - Pike County
Pike County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch
IDEM Southwest Regional Office



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Part 70 Operating Permit Renewal

OFFICE OF AIR QUALITY

Indianapolis Power & Light Company - Petersburg Generating Station
6925 N. State Road 57
Petersburg, Indiana 47567

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

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Table with 2 columns: Issued by: Original Signed (Tripurari P. Sinha, Ph. D., Section Chief, Permits Branch, Office of Air Quality) and Issuance Date: July 18, 2013. Expiration Date: July 18, 2018.

First Significant Permit Modification No. T125-33773-00002, issued January 10, 2014.
Second Significant Permit Modification No.: T125-34687-00002, issued June 18, 2015

Table with 2 columns: Issued by: (Handwritten signature of Tripurari P. Sinha, Ph. D., Section Chief, Permits Branch, Office of Air Quality) and Issuance Date: November 20, 2015. Expiration Date: July 18, 2018.



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Certification
Emergency Occurrence Report
Quarterly Deviation and Compliance Monitoring Report

Attachment A: Extension of Time Request
Attachment B: Fugitive Dust Control Plan
Attachment C: Acid Rain Permit
Attachment D: NSPS 40 CFR Part 60, Subpart D
Attachment E: NSPS 40 CFR Part 60, Subpart OOO
Attachment F: NESHAP 40 CFR 63, Subpart ZZZZ
Attachment G: NESHAP 40 CFR 63, Subpart UUUUU

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary electric utility generating station.

Source Address:	6925 N. State Road 57, Petersburg, Indiana 47567
General Source Phone Number:	(812) 354-8801
SIC Code:	4911
County Location:	Pike (Washington Township)
Source Location Status:	Attainment for PM _{2.5} standard Non-attainment for SO ₂ in Washington Township Attainment for all other criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Major Source Under Emission Offset Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

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

- (a) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 1, constructed prior to 1967, with a design capacity of 2200 MMBtu per hour. Unit 1 uses an electrostatic precipitator as control for PM emissions; FGD scrubber (installed in 1996) as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 1995) for NO_x reduction; and exhausts to stack 1-1(s) or bypass stack 1-1 (b).
- (b) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 2, constructed prior to 1969, with a design capacity of 4144 MMBtu per hour. Unit 2 uses an electrostatic precipitator or a baghouse (approved in 2015 for construction), as control for PM emissions; FGD scrubber (installed in 1996), as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction; selective catalytic reduction (installed in 2004); and low NO_x burner as control for NO_x reduction, and exhausts to stack 2-1(s) or bypass stack 2-1(b).
- (c) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 3, constructed prior to 1977, with a design capacity of 5540 MMBtu per hour. Unit 3 uses an electrostatic precipitator or a baghouse, (approved in 2015 for construction) as control for PM emissions; activated carbon injection (ACI), (approved in 2013 for construction); selective catalytic reduction (installed in 2004) as control for NO_x emissions; FGD scrubber as control for SO₂ emissions and exhausts to stack 3-1.

- (d) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 4, on which construction began in 1978 and which began operation in 1986, with a design capacity of 5550 MMBtu per hour. Unit 4 uses an electrostatic precipitator as control for PM emissions; FGD scrubber as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 2001) for NO_x reduction, and exhausts to stack 4-1.
- (e) One (1) emergency diesel internal combustion engine/generator, identified as PB-2, constructed prior to 1967, with a design capacity of 28.4 MMBtu per hour, and exhausting to stack PB2-1.
- (f) One (1) emergency diesel internal combustion engine/generator, identified as PB-3, constructed prior to 1967, with a design capacity of 28.4 MMBtu per hour, and exhausting to stack PB3-1.
- (g) One (1) emergency diesel internal combustion engine/generator, identified as PB-4, constructed prior to 1967, with a design capacity of 28.4 MMBtu per hour, and exhausting to stack PB4-1.
- (h) Coal handling facility, identified as PB-45 "System A", constructed in 1963, with a maximum throughput of 901.8 tons per hour, consisting of the following operations:
 - (1) Train and truck unloading.
 - (2) Move bulk materials - haul trucks, loaders, bulldozers, other heavy mobile equipment, etc.
 - (3) Transfer - hoppers, feeders, conveyors, trippers, bunkers, silos, etc.
 - (4) Enclosures at drop points.
 - (5) Coal crushing with enclosures.
 - (6) Free fall from overhead conveyor to outside pile.
 - (7) Outside storage pile.
 - (8) Reclaiming and loading.
 - (9) Truck hauling on paved and unpaved roads.
- (i) Coal and limestone handling facility, identified as PB-48 "System B," constructed in 1973, with a maximum throughput of 901.8 tons per hour, consisting of the following operations:
 - (1) Train and truck unloading.
 - (2) Move bulk materials - haul trucks, front-end loaders, bulldozers, other heavy mobile equipment, etc.
 - (3) Transfer - hoppers, feeders, conveyors, trippers, bunkers, silos, etc.
 - (4) Enclosures at drop points.
 - (5) Coal crushing with enclosures.
 - (6) Limestone wet ball mill.

- (7) Outside storage pile.
 - (8) Reclaiming and loading.
 - (9) Truck hauling on paved and unpaved roads.
- (j) Limestone handling facility, identified as PB-65, constructed in 1993 and modified in 2009, with a maximum throughput of 137.7 tons per hour, consisting of the following operations:
- (1) Truck unloading.
 - (2) Move bulk materials - haul trucks, dozers, front end loaders, other heavy mobile equipment, etc.
 - (3) Outside storage pile.
 - (4) Reclaiming and loading.
 - (5) Transfer - hoppers, feeders, conveyors, silos, etc.
 - (6) Enclosures at drop points.
 - (7) Baghouses on the silos.
 - (8) Limestone wet ball mills.
 - (9) Truck hauling on paved and unpaved roads.
- (k) FGD sludge (gypsum) handling facility, identified as PB-67, constructed in 1993 and modified in 2009, with a maximum throughput of 300.2 tons per hour, consisting of the following operations:
- (1) Wet handling to dewatering process.
 - (2) Transfer - hoppers, feeders, conveyors, etc.
 - (3) Enclosures at drop points.
 - (4) Free fall from overhead conveyors to inside piles.
 - (5) Inside and outside storage piles.
 - (6) Loading.
 - (7) Move bulk materials - haul trucks, front end loader, other heavy mobile equipment, etc.
 - (8) Truck hauling on paved and unpaved roads.
- (l) Ash and FGD sludge (filter cake) handling facility, identified as PB-51, with a maximum throughput of 305.6 tons per hour, consisting of the following operations:
- (1) Move bulk materials - haul trucks, front end loader, bulldozer, excavating, dredging, other heavy mobile equipment, etc.

- (2) Transfer - silos, hoppers, feeders, conveyors, day tanks with baghouses, pugmill mixers with dust collectors, etc.
 - (3) Enclosures at drop points.
 - (4) Conveying dry fly ash to silos with baghouses.
 - (5) Wet process ash handling from Units 3 and 4 to ash pond and/or dewatering bins.
 - (6) Wet process ash handling from Units 1 and 2 to ash ponds.
 - (7) Free fall from overhead conveyor to outside pile.
 - (8) Outside storage pile.
 - (9) Existing ash pond disposal facilities.
 - (10) Landfill disposal facilities for Coal Combustion Products.
 - (11) Truck and tanker loading.
 - (12) Truck unloading.
 - (13) Truck hauling on paved and unpaved roads.
- (m) One (1) fly ash railcar loading operation, identified as BH-N, constructed in 2005, with a maximum throughput rate of 37.5 tons of fly ash per hour, controlled by a baghouse, and exhausting through stack 101.
- (n) One (1) fly ash railcar loading operation from Ash Silo 3, constructed in 2005, with a maximum throughput rate of 200 tons of fly ash per hour, with an enclosed drop from Silo 3 to an air-fluidized enclosed loadout slide from the silo and a gasket drop to enclosed railroad cars, controlled by baghouse B-11, and exhausting through stack 11.
- (o) One (1) Cooling Tower associated with Unit 4, identified as CT-4, permitted in 2011, with a capacity of 224,939 gallons circulating water per minute and a maximum drift rate of 0.001%.
- (p) Activated Carbon Injection Systems, consisting of the following operations:
- (1) One (1) activated carbon injection silo, serving unit 1, identified as ACI-1, approved for construction in 2013, with a maximum storage capacity of 160 tons, and a maximum throughput of 650 lbs/hr, controlled by a bin vent filter.
 - (2) One (1) activated carbon injection silo, serving unit 2, identified as ACI-2, approved for construction in 2013, with a maximum storage capacity of 230 tons, and a maximum throughput of 1,225 lbs/hr, controlled by a bin vent filter.
 - (3) One (1) activated carbon injection silo, serving unit 3, identified as ACI-3, approved for construction in 2013, with a maximum storage capacity of 275 tons, and a maximum throughput of 1,637 lbs/hr, controlled by a bin vent filter.
 - (4) One (1) activated carbon injection silo, serving unit 4, identified as ACI-4, approved for construction in 2013, with a maximum storage capacity of 275 tons, and a maximum throughput of 1,640 lbs/hr, controlled by a bin vent filter.

A.3 Specifically Regulated Insignificant Activities
[326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

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

- (a) Coal bunker and coal scale exhausts and associated dust collector vents. [326 IAC 6-3-2]
- (b) Vents from transport systems associated with the handling of various materials including but not limited to vacuum pumps associated with respective operations. [326 IAC 6-3-2]
- (c) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO₂; 5 lb/hr or 25 lb/day NO_x; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:
 - (1) Coal Pile Wind Erosion [326 IAC 6-4] [326 IAC 6-5];
 - (2) Fly ash/FGD Sludge Landfill Drop Points [326 IAC 6-4] [326 IAC 6-5]; and
 - (3) Fly ash/FGD Sludge Landfill Wind Erosion [326 IAC 6-4] [326 IAC 6-5].
 - (4) Sorbent unloading associated with SBS Systems [326 IAC 6-3-2]
 - (5) One (1) 150 ton lime storage silo, identified as WWLS permitted in 2015 for construction, maximum throughput of 1865 pounds per hour, voluntarily controlled by a bin vent filter, identified as WWLS-BV-1 and exhausting to stack S-WWLS-1. [326 IAC 6-3-2]
 - (6) Two (2) lime mix tanks, identified as LMT-1 and LMT-2, permitted in 2015 for construction. Each has a maximum loading rate of 939 pound per hour, voluntarily controlled by a wet scrubber and exhausting to stacks S-LMT-1 and S-LMT-2. [326 IAC 6-3-2]
- (d) Truck hauling on paved and unpaved roads. [326 IAC 6-4] [326 IAC 6-5]
- (e) One (1) diesel emergency internal combustion engine used to power a fire water pump, installed in 1975, identified as FP-1, with a maximum heat input capacity of 0.483 MMBtu/hr and a rating of 250 brake horsepower (bhp).

A.4 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).
- (c) It is an affected source under Title IV (Acid Deposition Control) of the Clean Air Act, as defined in 326 IAC 2-7-1(3);

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) This permit, T 125-30045-00002, 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 Clean 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] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

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

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

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

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

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

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

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

- (a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:
- (1) It contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and
 - (2) 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(35).

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

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted 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 require 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(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)] [326 IAC 1-6-3]

- (a) 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(35).

The Permittee shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. 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(35).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 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, and Southwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Southwest Regional Office phone: (812) 380-2305; fax: (812) 380-2304.

- (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

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

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require 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(35).

- (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)(8) 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.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.
- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
 - (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

- (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

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

- (a) All terms and conditions of permits established prior to T 125-30045-00002 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.14 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.15 Reserved

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(35).
- (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(42). 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(35).

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) Pursuant to 326 IAC 2-7-11(b) and 326 IAC 2-7-12(a), administrative Part 70 operating permit amendments and permit modifications for purposes of the acid rain portion of a Part 70 permit shall be governed by regulations promulgated under Title IV of the Clean Air Act. [40 CFR 72]
- (c) 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 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(35).

- (d) 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) or (c) 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)(1) or (c)(1). 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) or (c)(1).

- (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(37)) 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(35).

- (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 [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.
- (f) This condition does not apply to emission trades of SO₂ or NO_x under 326 IAC 21 or 326 IAC 10-4.

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

- (a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.
- (b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2.

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

Any such 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(35).

- (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 process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 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 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on April 01, 2004. The plan is included as Attachment B. The provisions of 326 IAC 6-5 are not federally enforceable.

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

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

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
- (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
- (2) If there is a change in the following:
- (A) Asbestos removal or demolition start date;
- (B) Removal or demolition contractor; or
- (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).
- All required notifications shall be submitted to:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251
- The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

- (g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

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

C.9 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(35).
- (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 a "responsible official" as defined by 326 IAC 2-7-1(35).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

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

C.11 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]

- (a) For new units:
- Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.
- (b) For existing units:
- 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 to begin such monitoring. If due to circumstances beyond Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance 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(35).

- (c) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
- (d) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

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

This provision C.12, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

- (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 to the extent required by 326 IAC 3-5 at all times that the forced draft fan is in operation.
- (b) All applicable COMS, as defined in 40 CFR Part 60, Appendix B Section 1.0, 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 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 later than twenty-four (24) hours after the start of the malfunction or down time; provided, however, that if such 24-hour period ends during the period beginning two (2) hours before sunset and ending two (2) hours after sunrise, then such visible emissions readings shall begin within four (4) hours of sunrise on the day following the expiration of such 24-hour period.
- (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 COMS is online.
- (3) Method 9 readings are not required on stacks with operating scrubbers.
- (4) Method 9 readings may be discontinued once a COMS is online.
- (5) 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 and/or 40 CFR 63).
- (f) Until the continuous emission monitoring system (CEMS) for monitoring particulate matter from the boilers is installed, certified and operating, the Permittee shall comply with the requirements of Condition C.12.

C.13 Reserved

C.14 Reserved

C.15 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. The analog instrument shall be capable of measuring values outside of the normal range.
- (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.16 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 prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval 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

within ninety (90) days after the date of issuance of this permit.

The ERP does require the certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) 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.17 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.18 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, not subject to CAM, 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 limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.

- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
 - (e) The Permittee shall record the reasonable response steps taken.
- (II)
- (a) *CAM Response to excursions or exceedances.*
 - (1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. 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). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or 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.
 - (2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
 - (b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
 - (c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.
 - (d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).
 - (e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
 - (f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:

- (1) Failed to address the cause of the control device performance problems; or
- (2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.
- (h) *CAM recordkeeping requirements.*
 - (1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.
 - (2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

C.19 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(35).

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

C.20 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 by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

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

- (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for 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 certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.21 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. Support information includes the following, where applicable:
- (AA) All calibration and maintenance records.
 - (BB) All original strip chart recordings for continuous monitoring instrumentation.
 - (CC) Copies of all reports required by the Part 70 Permit.

Records of required monitoring information include the following, where applicable:

- (AA) The date, place, as defined in this permit, and time of sampling or measurements.
- (BB) The dates analyses were performed.
- (CC) The company or entity that performed the analyses.
- (DD) The analytical techniques or methods used.
- (EE) The results of such analyses.
- (FF) The operating conditions as existing at the time of sampling or measurement.

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 start-up, whichever is later, to begin such record keeping.

- (c) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A), 326 IAC 2-2-8 (b)(6)(B), 326 IAC 2-3-2 (l)(6)(A), and/or 326 IAC 2-3-2 (l)(6)(B)) that a “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) 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(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:
- (1) Before beginning actual construction of the “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) 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(pp)(2)(A)(iii) and/or 326 IAC 2-3-1 (kk)(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 326 IAC 2-2-8 (b)(6)(A) and/or 326 IAC 2-3-2 (l)(6)(A)) that a “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) 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(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), 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.22 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3] [40 CFR 64][326 IAC 3-8]

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- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. 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 no later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include 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(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

- (1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
- (2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- (3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

- (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) Reserved
- (e) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial startup, whichever is later, 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.
- (f) 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 (oo) and/or 326 IAC 2-3-1 (jj)) *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 (ww) and/or 326 IAC 2-3-1 (pp), 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 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 projection.

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) 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.
- (i) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, 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.
- (j) If the Permittee is required to comply with the record keeping provisions of (d) in Section C – General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (oo) and/or 326 IAC 2-3-1 (jj)) *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 (ww) and/or 326 IAC 2-3-1 (pp), 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).
- (k) The report for project at an existing emissions *unit* shall be submitted no later than 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 projection.

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

- (l) 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.23 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.

Ambient Monitoring Requirements [326 IAC 7-3]

C.24 Ambient Monitoring [326 IAC 7-3]

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- (a) The Permittee shall operate continuous ambient sulfur dioxide air quality monitors and a meteorological data acquisition system according to a monitoring plan submitted to the commissioner for approval. The monitoring plan shall include requirements listed in 326 IAC 7-3-2(a)(1), 326 IAC 7-3-2(a)(2) and 326 IAC 7-3-2(a)(3).
- (b) The Permittee and other operators subject to the requirements of this rule, located in the same county, may submit a joint monitoring plan to satisfy the requirements of this rule. [326 IAC 7-3-2(c)]
- (c) The Permittee may petition the commissioner for an administrative waiver of all or some of the requirements of 326 IAC 7-3 if such owner or operator can demonstrate that ambient monitoring is unnecessary to determine continued maintenance of the sulfur dioxide ambient air quality standards in the vicinity of the source. [326 IAC 7-3-2(d)]

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Boilers 1 and 2

- (a) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 1, constructed prior to 1967, with a design capacity of 2200 MMBtu per hour. Unit 1 uses an electrostatic precipitator as control for PM emissions; FGD scrubber (installed in 1996) as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 1995) for NO_x reduction; and exhausts to stack 1-1(s) or bypass stack 1-1 (b).
- (b) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 2, constructed prior to 1969, with a design capacity of 4144 MMBtu per hour. Unit 2 uses an electrostatic precipitator or a baghouse (approved in 2015 for construction), as control for PM emissions; FGD scrubber (installed in 1996), as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); selective catalytic reduction (installed in 2004); and low NO_x burner as control for NO_x reduction, and exhausts to stack 2-1(s) or bypass stack 2-1(b).

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

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

D.1.1 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-3]

- (a) Pursuant to 326 IAC 6-2-3(b), the particulate matter emissions from Unit 1 and Unit 2 shall not exceed 0.38 lb per MMBtu when exhausting to the main stack and 0.37 lb per MMBtu when exhausting to the bypass stack. The pounds per million Btu limits were calculated using the following equation:

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

where C = 50 u/m³

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

Q = total source maximum operating capacity rating (Q = 6344 MMBtu/hr)

N = number of stacks (N = 2)

a = plume rise factor (a = 0.8)

h = stack height (h = 621 ft; h of bypass stack = 604.5 ft)

D.1.2 Startup, Shutdown and Other Opacity Limits [326 IAC 5-1-3]

- (a) Pursuant to 326 IAC 5-1-3(e) (Temporary Alternative Opacity Limitations), the following applies to Units 1 and 2:
- (1) When building a new fire in a boiler, opacity may exceed the applicable limitation established in 326 IAC 5-1-2 for a period not to exceed a total of four (4) hours (forty (40) six (6)-minute averaging periods) during the startup period, or until the flue gas temperature entering the PM control device reaches two hundred and fifty (250) degrees Fahrenheit at the inlet to the electrostatic precipitator for Unit 1 and the inlet of the electrostatic precipitator or inlet of the baghouse for Unit 2, whichever occurs first.

For Unit 1, compliance with the opacity limit is determined by adding the Unit 1 Scrubbed and Unit 1 Bypass stacks' opacity exceedances during the startup period. For Unit 2, compliance with the opacity limit is determined by adding the Unit 2 Scrubbed and Unit 2 Bypass stacks' opacity exceedances during the startup period.

- (2) When shutting down a boiler, opacity may exceed the applicable limitation established in 326 IAC 5-1-2 for a period not to exceed a total of two (2) hours (twenty (20) six (6)-minute averaging periods) during the shutdown period.
- (3) Operation of the electrostatic precipitators are not required during these times.
- (b) 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. 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 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)]
- (c) If a facility cannot meet the opacity limitations in (a) and (b) of this condition, 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) This provision, D.1.2, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

D.1.3 Sulfur Dioxide (SO₂) Emission Limitations [326 IAC 7-1.1]

Pursuant to 326 IAC 7-1.1-2, the SO₂ emissions from Units 1 and 2 shall each not exceed 6.0 pounds per million Btu (lbs/MMBtu), when burning coal or coal in combination with any other fuel, and five-tenths (0.5) pounds per MMBtu when burning fuel oil

Compliance Determination Requirements

D.1.4 Particulate Control [40 CFR 64]

Except as otherwise provided by statute or rule or in this permit, in order to comply with Condition D.1.1, the particulate control devices (the electrostatic precipitator for Unit 1, and baghouse or the electrostatic precipitator for Unit 2), shall be in operation and control emissions from Units 1 and 2 at all times that the respective facilities are in operation.

D.1.5 Sulfur Dioxide Control

Except as otherwise provided by statute or rule or in this permit, the FGD scrubbers for SO₂ control shall be in operation as needed to maintain compliance with all applicable SO₂ limits.

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

- (a) This provision, D.1.6, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

Unit 1 and Unit 2

- (1) In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM testing for Units 1 and 2, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every two (2) calendar years following this 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.

Baghouse for Unit 2

- (2) Within 180 days after issuance of this Permit T125-34687-00002, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM testing on the Baghouse for Unit 2 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every two (2) calendar

years following this 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.

- (b) Until the continuous emission monitoring system (CEMS) for monitoring particulate matter from the boilers is installed, certified and operating, the Permittee shall comply with the requirements of Condition D.1.6.

D.1.7 Continuous Emissions Monitoring System (CEMS) for SO₂, NO_x and CO₂ [326 IAC 3-5] [40 CFR Part 75]

- (a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment for SO₂, NO_x and CO₂ emissions.
- (b) All continuous emission monitoring systems shall meet all applicable performance specifications of 40 CFR Parts 60, 75, and 98 as applicable, or any other performance specification, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.
- (c) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.
- (d) Whenever a continuous emission monitor is malfunctioning or will be down for maintenance or repairs, the following shall be used as an alternative to continuous data collection:
 - (1) If the CEMS is required for monitoring NO_x or SO₂ emissions pursuant to 40 CFR 75 (Title IV Acid Rain program), the Permittee shall comply with the relevant requirements of 40 CFR 75 Subpart D – Missing Data Substitution Procedures.
 - (2) If the CEMS is not used to monitor NO_x or SO₂ emissions pursuant to 40 CFR 75, then supplemental or intermittent monitoring of the parameter shall be implemented as specified in Section D of this permit until such time as the emission monitor system is back in operation.
- (e) 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.

D.1.8 Particulate Matter (PM), HCl and Hg Continuous Emission Monitoring System (CEMS) [326 IAC 3-5] [326 IAC 2-7-5(3)(A)(iii)]

The Permittee shall install, certify, maintain, and operate CEMS measuring PM, HCl and Hg emissions discharged from Unit 1 and Unit 2 stacks to the atmosphere and record the output of the system as specified in paragraphs (a) through (c):

- (a) The PM CEMS shall be installed, certified, operated, and maintained pursuant to 40 CFR Part 60, Appendix B, Performance Specification #11.
- (b) Compliance with the applicable particulate emission limitation in Condition D.1.1 shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emissions concentrations using the continuous monitoring system outlet data.
- (c) Whenever this PM CEMS is malfunctioning or down for repair or adjustments for 24 hours or more, and a backup CEMS is not brought on-line, the following shall be used to provide information related to particulate emissions:

- (1) The ability of the FGD to control particulate matter emissions shall be monitored once per day when Unit 1 and Unit 2 are in operation by measuring and recording the following:
 - (a) Number of recycle pumps in service; and
 - (b) Absorber pH.

D.1.9 Continuous Opacity Monitoring [326 IAC 3-5] [40 CFR Part 75]

This provision, D.1.9, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

- (a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), and 326 IAC 2, a continuous monitoring system shall be installed, calibrated, maintained, and operated to measure the opacity of the exhaust from Units 1 and 2. The continuous opacity monitoring systems (COMS) shall meet the performance specifications of 326 IAC 3-5-2.
- (b) The COMS must operate and record data during all periods of operation of the affected facilities including periods of startup, shutdown, malfunction or emergency conditions, except for COMS breakdowns, repairs, calibration checks, and zero and span adjustments.
- (c) All COMS are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.
- (d) In instances of COMS downtime, the source shall follow the procedures in accordance with Section C - Maintenance of Continuous Opacity Monitoring Equipment, until such time that the COMS is back in operation.
- (e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a COMS pursuant to 326 IAC 3-5, 40 CFR Part 60, and/or 40 CFR Part 75.
- (f) Pursuant to SPM 125-12171-00002, issued on February 20, 2001 and 326 IAC 3-5-1(c)(2)(A)(iii), an alternative monitoring requirement request has been granted for the location of the continuous opacity emission monitors for Unit 2. The monitors shall be located in the unit ducts 2-1 and 2-2 at the ID fan discharge location, downstream of the electrostatic precipitator and upstream of the scrubbers.

The combined data obtained from the continuous opacity monitors located in the ducts of Unit 2 at the Petersburg Generating Station is enforceable information for purposes of demonstrating compliance with 326 IAC 5.

D.1.10 Sulfur Dioxide Emissions [326 IAC 3] [326 IAC 7-2] [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-2-1(a) and (c), the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed the applicable limits in Condition D.1.3. Compliance with these limits shall be determined using SO₂ CEMS data and demonstrated using a thirty (30) day rolling weighted average.

D.1.11 ORDER of the Commissioner of the Indiana Department of Environmental Management

Pursuant to Indiana Code § 13-14-2-6 and in order to secure compliance with 40 CFR Part 63, Subpart UUUUU, Indianapolis Power & Light Company, Petersburg Station is subject to following ORDER:

1. Indianapolis Power & Light Company shall submit a status report within fifteen (15) days of completion of the following milestones indicating the actual dates of completion:

- a. The date on-site construction for the installation of the emission control equipment identified in Attachment A (of the Commissioner Order) for Petersburg Unit 2 is initiated, and
 - b. The date on-site construction for the installation of the emission control equipment identified in Attachment A (of the Commissioner Order) for Petersburg Unit 2 is completed.
 - c. The date by which final compliance with 40 CFR 63, Subpart UUUUU for Petersburg Unit 2 is achieved.
2. Indianapolis Power & Light Company, Petersburg Station Unit 2 shall comply with the standards set forth in 40 CFR Part 63, Subpart UUUUU no later than July 16, 2015.

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

D.1.12 Electrostatic Precipitator (ESP) Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)][40 CFR 64]

This provision, D.1.12, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

- (a) The ability of the ESP to control particulate emissions shall be monitored once per day, when the unit is in operation, by measuring and recording the number of T-R sets in service and the primary and secondary voltages and the currents of the transformer-rectifier T-R sets.
- (b) Reasonable response steps shall be taken in accordance with Section C - Response to Excursions or Exceedances whenever the percentage of T-R sets in service falls below 90 percent (90%). T-R set failure resulting in less than 90 percent (90%) availability 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 - Response Steps [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

This provision, D.1.13, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

Until the continuous emission monitoring system (CEMS) for monitoring particulate matter from Unit 1 and Unit 2 is installed and certified, the Permittee shall comply with the following:

- (a) Except when the scrubber is in operation and during periods of start up and shut down, appropriate response steps shall be taken in accordance with Section C - Response to Excursions or Exceedances whenever the opacity from either boiler exceeds thirty percent (30%) for three (3) consecutive six (6) minute averaging periods. The response steps shall be conducted such that the cause(s) of the excursion are identified and corrected and opacity levels are brought back below thirty percent (30%). Examples of expected response steps include, but are not limited to, boiler loads being reduced, adjustment of flue gas conditioning rate, and ESP T-R sets being returned to service.
- (b) Opacity readings in excess of thirty percent (30%), 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) The Permittee may request that the IDEM, OAQ approve a different opacity trigger level than the one specified in (a) and (b) of this condition, provided the Permittee can demonstrate, through stack testing or other appropriate means, that a different opacity trigger level is appropriate for monitoring compliance with the applicable particulate matter

mass emission limits.

D.1.14 SO₂ Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)]

- (a) Whenever the SO₂ continuous emission monitoring (CEMS) system is malfunctioning or down for repairs or adjustments and a backup CEMS is not brought on-line, the following shall be used to provide information related to SO₂ emissions:
- (1) If the CEM system is down for less than twenty-four (24) hours and a backup CEMS is not brought on-line, the Permittee shall substitute an average of the quality-assured data from the hour immediately before and the hour immediately after the missing data period for each hour of missing data.
 - (2) Whenever the SO₂ continuous emission monitoring system (CEMS) is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, and a backup CEMS cannot be brought on-line, the Permittee shall comply with the requirements of 40 CFR 75 Subpart D to demonstrate compliance with Condition D.1.3 until the primary CEMS or a backup CEMS is brought online.

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

D.1.15 Record Keeping Requirements

- (a) To document the compliance status with Section C - Opacity, and Conditions D.1.1, D.1.2, D.1.11 and D.1.14, the Permittee shall maintain records in accordance with (1) through (5) below. This provision, D.1.15(a), shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit. Records shall be complete and sufficient to establish compliance with the limits established in Section C - Opacity, Condition D.1.1 and Condition D.1.2:
- (1) Data and results from the most recent stack test until the PM CEMS is installed, certified and operating to measure PM emissions pursuant to this permit.
 - (2) All continuous opacity monitoring data, pursuant to 326 IAC 3-5-6 until the PM CEMS is installed, certified and operating to measure PM emissions pursuant to this permit.
 - (3) The results of all Method 9 visible emission readings taken during any periods of COMS downtime when a scrubber is not in service until the PM CEMS is installed, certified and operating to measure PM emissions pursuant to this permit.
 - (4) PM, HCl and Hg CEMS data after the PM, HCl and Hg CEMS is installed, certified and operating to measure PM, HCl and Hg emissions pursuant to this permit; and
 - (5) All ESP parametric monitoring readings.
- (b) To document the compliance status with Conditions D.1.3, D.1.7, D.1.10, and D.1.13, the Permittee shall maintain records in accordance with (1) through (4) below. Records shall be complete and sufficient to establish compliance with the SO₂ limits as required in Conditions D.1.3 and D.1.7.
- (1) All SO₂ continuous emissions monitoring data pursuant to 326 IAC 3-5-6.
 - (2) Calculated fuel usage during each SO₂ CEMS downtime for Unit(s) affected by CEMS downtime lasting 24 hours or more.
 - (3) All ESP parametric monitoring readings.

- (4) The substitute data used for the missing data periods if data substitution pursuant to 40 CFR Part 75 Subpart D is used to provide data for the SO₂ CEMS downtime, in accordance with Condition D.1.13.
- (c) To document the compliance status with Condition D.1.7, the Permittee shall maintain records of all NO_x continuous emissions monitoring data pursuant to 326 IAC 3-5-6. Records shall be complete and sufficient to establish compliance with the NO_x limits as required in 40 CFR Part 75.
- (d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.1.16 Reporting Requirements

- (a) A quarterly report of opacity exceedances and a quarterly summary of the information to document compliance with Conditions D.1.7 and D.1.8 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, not later than 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(35).
- (b) 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(35).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Boilers 3 and 4

- (c) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 3, constructed prior to 1977, with a design capacity of 5540 MMBtu per hour. Unit 3 uses an electrostatic precipitator or a baghouse, (approved in 2015 for construction) as control for PM emissions; activated carbon injection (ACI), (approved in 2013 for construction); selective catalytic reduction (installed in 2004) as control for NO_x emissions; FGD scrubber as control for SO₂ emissions and exhausts to stack 3-1.
- (d) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 4, on which construction began in 1978 and which began operation in 1986, with a design capacity of 5550 MMBtu per hour. Unit 4 uses an electrostatic precipitator as control for PM emissions; FGD scrubber as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 2001) for NO_x reduction, and exhausts to stack 4-1.

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

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

D.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 Unit 3 and Unit 4 except when otherwise specified in 40 CFR Part 60, Subpart D.

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

Pursuant to 326 IAC 12 and 40 CFR Part 60, Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971), emissions from Unit 3 and Unit 4 shall each not exceed the following:

- (a) For particulate matter:
- (1) One-tenth (0.10) pound PM per million Btu (MMBtu) heat input derived from fossil fuel. [40 CFR 60.42(a)(1)]
 - (2) 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)] Pursuant to 40 CFR 60.11(c), this opacity standard is not applicable during periods of startup, shutdown, or malfunction.
- (b) For sulfur dioxide:
- (1) Eight-tenths (0.80) pound SO₂ per million Btu (MMBtu) heat input derived from liquid fossil fuel. [40 CFR 60.43(a)(1)]
 - (2) One and two-tenths (1.2) pound SO₂ per million Btu (MMBtu) heat input derived from solid fossil fuel. [40 CFR 60.43(a)(2)]
 - (3) When combusting different fossil fuels simultaneously, the applicable SO₂ limit shall be determined using the formula in 40 CFR 60.43(b).
- (c) For nitrogen oxides:

- (1) Three-tenths (0.30) pound NO_x per million Btu (MMBtu) heat input derived from liquid fossil fuel. [40 CFR 60.44(a)(2)]
- (2) Seven-tenths (0.70) pound NO_x per million Btu (MMBtu) heat input derived from solid fossil fuel (except lignite or a solid fossil fuel containing twenty-five percent (25%), by weight, or more of coal refuse). [40 CFR 60.44(a)(3)]
- (3) When combusting different fossil fuels simultaneously, the applicable NO_x limit shall be determined using the formula in 40 CFR 60.44(b).

D.2.3 Prevention of Significant Deterioration (PSD) BACT [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD BACT), the following requirements shall apply to Unit 4:

- (a) Sulfur dioxide (SO₂) emissions shall not exceed 1.2 pounds per MMBtu heat input when burning coal.
- (b) PM emissions shall not exceed 0.1 pounds per MMBtu heat input.
- (c) Nitrogen oxides (NO_x) emissions shall not exceed 0.7 pounds per MMBtu heat input.

D.2.4 Startup, Shutdown and Other Opacity Limits [326 IAC 5-1-3]

- (a) Pursuant to 326 IAC 5-1-3(e) (Temporary Alternative Opacity Limitations), the following applies to Units 3 and 4:

- (1) When building a new fire in a boiler, opacity may exceed the applicable limitation established in 326 IAC 5-1-2 for a period not to exceed a total of four (4) hours (forty (40) six (6)-minute averaging periods) during the startup period, or until the flue gas temperature entering the PM control device reaches two hundred and fifty (250) degrees Fahrenheit at the inlet to the electrostatic precipitator or inlet to the baghouse for Unit 3, and the inlet to the electrostatic precipitator for Unit 4, whichever occurs first.

For Unit 3, compliance with the opacity limit is determined by adding the Unit 3 Scrubbed and Unit 3 Bypass stacks' opacity exceedances during the startup period. For Unit 4, compliance with the opacity limit is determined by adding the Unit 4 Scrubbed and Unit 4 Bypass stacks' opacity exceedances during the startup period.

- (2) When shutting down a boiler, opacity may exceed the applicable limitation established in 326 IAC 5-1-2 for a period not to exceed a total of two (2) hours (twenty (20) six (6)-minute averaging periods) during the shutdown period.
 - (3) Operation of the electrostatic precipitators are not required during these times.
- (b) If a facility cannot meet the opacity limitations in (a) and (b) of this condition, 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.
 - (c) This provision, D.2.4, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

D.2.5 Sulfur Dioxide (SO₂) Emission Limitations [326 IAC 7-1.1]

Pursuant to 326 IAC 7-1.1-2, the SO₂ emissions from Units 3 and 4 shall each not exceed 6.0 pounds per million Btu (lbs/MMBtu), when burning coal or coal in combination with any other fuel, and five-tenths (0.5) pounds per MMBtu when burning fuel oil.

Compliance Determination Requirements

D.2.6 Particulate Control [40 CFR 64]

Except as otherwise specified in this permit, in order to comply with Condition D.2.3(b), the particulate control devices (baghouse or the electrostatic precipitator for Unit 3 and the electrostatic precipitator for Unit 4) shall be in operation and control emissions from Units 3 and 4 at all times that the respective facilities are in operation.

D.2.7 Sulfur Dioxide Control

- (a) In order to comply with Condition D.2.5, the FGD scrubber for SO₂ control shall be in operation and control emissions from Unit 3 at all times that the respective facility is in operation, except when compliance is determined through the use of low sulfur coal as allowed by 40 CFR Part 60, Subpart D.
- (b) In order to comply with Conditions D.2.3(a) and D.2.5, the FGD scrubber for SO₂ control shall be in operation and control emissions from Unit 4 at all times that the facility is in operation, except where compliance is achieved by use of low sulfur coal as allowed by 40 CFR 60, Subpart D.

D.2.8 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

- (a) This provision, D.2.8, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

Unit 3 and Unit 4

- (1) In order to demonstrate the compliance status with Condition D.2.3(b), the Permittee shall perform PM testing on Unit 3 and Unit 4. These tests shall be repeated at least once every two (2) calendar years following this 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.

Baghouse for Unit 3

- (2) Within 365 days after issuance of this Permit T125-34687-00002, in order to demonstrate compliance with Condition D.2.3(b), the Permittee shall perform PM testing on the Baghouse for Unit 3 utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every two (2) calendar years following 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.

D.2.9 Fuel Sampling and Analysis

In order to demonstrate compliance with Condition D.2.3(a), when the SO₂ continuous emissions monitor is down and coal is fired in the Unit 3 or Unit 4, the Permittee shall conduct coal sampling and analysis required by 40 CFR 60, Subpart D.

D.2.10 Continuous Emission Monitoring System (CEMS) for SO₂, NO_x, and CO₂ [326 IAC 3-5][40 CFR Part 75]

- (a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment for SO₂, NO_x and CO₂ emissions.
- (b) All continuous emission monitoring systems shall meet all applicable performance specifications of 40 CFR Parts 60, 75, and 98 as applicable.
- (c) In the event that a breakdown of a continuous emission monitoring system occurs, a

record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

- (d) Whenever a continuous emission monitor is malfunctioning or will be down for maintenance or repairs, the following shall be used as an alternative to continuous data collection:
 - (1) If the CEMS is required for monitoring NO_x or SO₂ emissions pursuant to 40 CFR 75 (Title IV Acid Rain program), the Permittee shall comply with the relevant requirements of 40 CFR 75 Subpart D – Missing Data Substitution Procedures.
 - (2) If the CEMS is not used to monitor NO_x or SO₂ emissions pursuant to 40 CFR 75, then supplemental or intermittent monitoring of the parameter shall be implemented as specified in Section D of this permit until such time as the emission monitor system is back in operation.
- (e) 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.

D.2.11 Particulate Matter (PM), HCl and Hg Continuous Emission Monitoring System (CEMS) [326 IAC 3-5][326 IAC 2-7-5(3)(A)(iii)]

The Permittee shall install, certify, maintain, and operate a CEMS measuring PM, HCl and Hg emissions discharged from Unit 3 and Unit 4 stacks to the atmosphere and record the output of the system as specified in paragraphs (a) through (c):

- (a) The PM CEMS shall be installed, certified, operated, and maintained pursuant to 40 CFR Part 60, Appendix B, Performance Specification #11.
- (b) Compliance with the applicable particulate emission limitation in Condition D.2.3 shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emissions concentrations using the continuous monitoring system outlet data.
- (c) Whenever this PM CEMS is malfunctioning or down for repair or adjustments for 24 hours or more, and a backup CEMS is not brought on-line, the following shall be used to provide information related to particulate emissions:
 - (1) The ability of the FGD to control particulate matter emissions shall be monitored once per day when Unit 3 and Unit 4 are in operation by measuring and recording the following:
 - (a) Number of recycle pumps in service; and
 - (b) Absorber pH.

D.2.12 Continuous Opacity Monitoring [326 IAC 3-5] [40 CFR Part 75]

This provision, D.2.12, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

- (a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), and 326 IAC 2, a continuous monitoring system shall be installed, calibrated, maintained, and operated to measure the opacity of the exhaust from Units 3 and 4. The continuous opacity monitoring system (COMS) shall meet the performance specifications of 326 IAC 3-5-2.
- (b) The COMS must operate and record data during all periods of operation of the affected facilities including periods of startup, shutdown, malfunction or emergency conditions, except for COMS breakdowns, repairs, calibration checks, and zero and span

adjustments.

- (c) All COMS 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 COMS pursuant to 326 IAC 3-5 and 40 CFR Part 75.

D.2.13 Sulfur Dioxide Emissions [326 IAC 3] [326 IAC 7-2] [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-2-1(a) and (c), the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed the applicable limits in Condition D.2.5. Compliance with these limits shall be determined using SO₂ CEMS data and demonstrated using a thirty (30) day rolling weighted average.

D.2.14 ORDER of the Commissioner of the Indiana Department of Environmental Management

Pursuant to Indiana Code § 13-14-2-6 and in order to secure compliance with 40 CFR Part 63, Subpart UUUUU, Indianapolis Power & Light Company, Petersburg Station is subject to following ORDER:

1. Indianapolis Power & Light Company shall submit a status report within fifteen (15) days of completion of the following milestones indicating the actual dates of completion:
 - a. The date on-site construction for the installation of the emission control equipment identified in Attachment A (of the Commissioner Order) for Petersburg Unit 3 and 4 are initiated, and
 - b. The date on-site construction for the installation of the emission control equipment identified in Attachment A (of the Commissioner Order) for Petersburg Unit 3 and 4 are completed.
 - c. The date by which final compliance with 40 CFR 63, Subpart UUUUU for Petersburg Unit 3 and 4 are achieved.
2. Indianapolis Power & Light Company, Petersburg Station Unit 3 and 4 shall comply with the standards set forth in 40 CFR Part 63, Subpart UUUUU no later than April 16, 2016.

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

D.2.15 Electrostatic Precipitator (ESP) Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

This provision, D.2.15, shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit.

- (a) The ability of the ESP to control particulate emissions shall be monitored once per day, when the unit is in operation, by measuring and recording the number of T-R sets in service and the primary and secondary voltages and the currents of the T-R sets.
- (b) Reasonable response steps shall be taken in accordance with Section C - Response to Excursions or Exceedances whenever the percentage of T-R sets in service falls below 90 percent (90%). T-R set failure resulting in less than 90 percent (90%) availability 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.2.16 SO₂ Monitoring System Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(3)]

- (a) Whenever the SO₂ continuous emission monitoring (CEMS) system is malfunctioning or down for repairs or adjustments and a backup CEMS is not brought on-line, the following

shall be used to provide information related to SO₂ emissions:

- (1) If the CEM system is down for less than twenty-four (24) hours and a backup CEMS is not brought on-line, the Permittee shall substitute an average of the quality-assured data from the hour immediately before and the hour immediately after the missing data period for each hour of missing data.
- (2) Whenever the SO₂ continuous emission monitoring system (CEMS) is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, and a backup CEMS cannot be brought on-line, the Permittee shall comply with the requirements of 40 CFR 75 Subpart D to demonstrate compliance with Condition D.2.3(a) until the primary CEMS or a backup CEMS is brought online.

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

D.2.17 Record Keeping Requirements

- (a) To document the compliance status with Section C - Opacity and Conditions D.2.3, D.2.4, D.2.11, and D.2.14, the Permittee shall maintain records in accordance with (1) through (5) below. This provision, D.2.17(a), shall no longer apply after PM CEMS is installed, certified, and operating to measure PM emissions pursuant to this permit. Records shall be complete and sufficient to establish compliance with the limits established in Section C - Opacity and in Conditions D.2.3 and D.2.4:
 - (1) Data and results from the most recent stack test until the PM CEMS is installed, certified and operating to measure PM emissions pursuant to this permit;
 - (2) All continuous opacity monitoring data, pursuant to 326 IAC 3-5-6 until the PM CEMS is installed, certified and operating to measure PM emissions pursuant to this permit;
 - (3) The results of all Method 9 visible emission readings taken during any periods of COMS downtime when the scrubber is not in service until the PM CEMS is installed, certified and operating to measure PM emissions pursuant to this permit;
 - (4) PM, HCl and Hg CEMS data after the PM, HCl and Hg CEMS is installed, certified and operating to measure PM, HCl and Hg emissions pursuant to this permit; and
 - (5) All ESP parametric monitoring readings.
- (b) To document the compliance status with Conditions D.2.3, D.2.5, 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 SO₂ limits as required in Conditions D.2.3 and D.2.5.
 - (1) All SO₂ continuous emissions monitoring data, pursuant to 326 IAC 3-5-6.
 - (2) All scrubber parametric monitoring readings taken in accordance with Condition D.2.7.
 - (3) Calculated fuel usage during each SO₂ CEMS downtime for Unit(s) affected by CEMS downtime lasting 24 hours or more.
 - (4) The substitute data used for the missing data periods if data substitution pursuant to 40 CFR Part 75 Subpart D is used to provide data for the SO₂ CEMS downtime, in accordance with Condition D.2.16.

- (c) To document the compliance status with Conditions D.2.3, and D.2.10, the Permittee shall maintain records of all NO_x continuous emissions monitoring data, pursuant to 326 IAC 3-5-6. Records shall be complete and sufficient to establish compliance with the NO_x limits as required in Condition D.2.3.
- (d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

D.2.18 Reporting Requirements

- (a) A quarterly report of opacity exceedances and a quarterly summary of the information to document compliance with Conditions D.2.7, D.2.10, and D.2.11, shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(35).
- (b) 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(35).

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Coal Handling Facilities

- (h) Coal handling facility, identified as PB-45 "System A", constructed in 1963, with a maximum throughput of 901.8 tons per hour, consisting of the following operations:
- (1) Train and truck unloading.
 - (2) Move bulk materials - haul trucks, front-end loaders, bulldozers, other heavy mobile equipment, etc.
 - (3) Transfer - hoppers, feeders, conveyors, trippers, bunkers, silos, etc.
 - (4) Enclosures at drop points.
 - (5) Coal crushing with enclosures.
 - (6) Free fall from overhead conveyor to outside pile.
 - (7) Outside storage pile.
 - (8) Reclaiming and loading.
 - (9) Truck hauling on paved and unpaved roads.
- (i) Coal and limestone handling facility, identified as PB-48 "System B," constructed in 1973, with a maximum throughput of 901.8 tons per hour, consisting of the following operations:
- (1) Train and truck unloading.
 - (2) Move bulk materials - haul trucks, front-end loaders, bulldozers, other heavy mobile equipment, etc.
 - (3) Transfer - hoppers, feeders, conveyors, trippers, bunkers, silos, etc.
 - (4) Enclosures at drop points.
 - (5) Coal crushing with enclosures.
 - (6) Limestone wet ball mill.
 - (7) Outside storage pile.
 - (8) Reclaiming and loading.
 - (9) Truck hauling on paved and unpaved roads.

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

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

D.3.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the coal and limestone handling facilities (PB-45 and PB-48) (excluding ash ponds, vehicular traffic on paved and unpaved roads, (including truck hauling), conveyance systems open to the atmosphere, storage piles, free fall to storage piles, tanker and truck loading/unloading, bulk material movement, and general construction activities) shall not exceed an amount determined by the following:

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

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

- (b) When the process weight rate exceeds two hundred (200) tons per hour, the allowable emission may exceed the pounds per hour limitation calculated using the above equation, provided the concentration of particulate in the discharge gases to the atmosphere is less than 0.10 pounds per one thousand (1,000) pounds of gases.

Compliance Determination Requirements

D.3.2 Particulate Control [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, in order to comply with Condition D.3.1 the enclosures for particulate control shall be in place and control emissions at all times facilities PB-45 "System A" and PB-48 "System B" are in operation.

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

D.3.3 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- (a) Visible emission notations of the unenclosed coal and limestone transfer points shall be performed once per week during normal daylight operations when unloading coal and limestone. A trained employee shall record whether emissions are normal or abnormal.
- (b) 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 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation.
- (d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

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

D.3.4 Record Keeping Requirements

- (a) To document the compliance status with Section C - Opacity and Condition D.3.3, the Permittee shall maintain a weekly record of visible emission notations. 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 notations (e.g. the process did not operate that day).
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Limestone/Fly Ash/Gypsum Handling Facilities

- (j) Limestone handling facility, identified as PB-65, constructed in 1993 and modified in 2009, with a maximum throughput of 137.7 tons per hour, consisting of the following operations:
- (1) Truck unloading.
 - (2) Move bulk materials - haul trucks, dozers, front end loaders, other heavy mobile equipment, etc.
 - (3) Outside storage pile.
 - (4) Reclaiming and loading.
 - (5) Transfer - hoppers, feeders, conveyors, silos, etc.
 - (6) Enclosures at drop points.
 - (7) Baghouses on the silos.
 - (8) Limestone wet ball mills.
 - (9) Truck hauling on paved and unpaved roads
- (k) FGD sludge (gypsum) handling facility, identified as PB-67, constructed in 1993 and modified in 2009, with a maximum throughput of 300.2 tons per hour, consisting of the following operations:
- (1) Wet handling to dewatering process.
 - (2) Transfer - hoppers, feeders, conveyors, etc.
 - (3) Enclosures at drop points.
 - (4) Free fall from overhead conveyors to inside piles.
 - (5) Inside and outside storage piles.
 - (6) Loading.
 - (7) Move bulk materials - haul trucks, front end loader, other heavy mobile equipment, etc.
 - (8) Truck hauling on paved and unpaved roads.
- (l) Ash and FGD sludge (filter cake) handling facility, identified as PB-51, with a maximum throughput of 305.6 tons per hour, consisting of the following operations:
- (1) Move bulk materials - haul trucks, front end loader, bulldozer, excavating, dredging, other heavy mobile equipment, etc.
 - (2) Transfer - silos, hoppers, feeders, conveyors, day tanks with baghouses, mixers, etc.
 - (3) Enclosures at drop points.
 - (4) Conveying dry fly ash to silos with baghouses.

- (5) Wet process ash handling from Units 3 and 4 to ash pond and/or dewatering bins.
- (6) Wet process ash handling from Units 1 and 2 ash pond.
- (7) Free fall from overhead conveyor to outside pile.
- (8) Outside storage pile.
- (9) Existing ash pond disposal facilities.
- (10) Landfill disposal facilities for Coal Combustion Products.
- (11) Truck and tanker loading.
- (12) Truck unloading.
- (13) Truck hauling on paved and unpaved roads.

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

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

D.4.1 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 facility PB-65 except when otherwise specified in 40 CFR Part 60, Subpart OOO.

D.4.2 New Source Performance Standard (NSPS): Nonmetallic Mineral Processing Plants [326 IAC 12] [40 CFR 60, Subpart OOO]

The limestone handling facility, PB-65, shall comply with the applicable portions of 40 CFR 60, Subpart OOO, incorporated by reference in 326 IAC 12-1.

D.4.3 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall control fugitive dust on paved roads by wetting or flushing with a watering truck or cleaning with a vacuum-sweeper on an as needed basis as specified in the Fugitive Dust Control Plan in Attachment B.

Therefore, the emissions from the modification (SSM 125-26913-00002) approved in 2009 (installation and operation of a limestone wet ball mill and a limestone storage silo and associated limestone and gypsum handling systems for Unit 4) and the modification approved in 2011 for the Unit 4 Cooling Tower, CT-4, are limited to less than 25 tons/yr for PM, and the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification (SSM 125-26913-00002) approved in 2009 (installation and operation of a limestone wet ball mill and a limestone storage silo and associated limestone and gypsum handling systems for Unit 4) nor the modification approved in 2011 for the Unit 4 Cooling Tower, CT-4.

Further, the emissions from the modification (SSM 125-32721-00002), approved in 2013 (installation of ACI Systems, Sorbent Unloading associated with SBS Systems, and increased Ash handling emissions) are limited to less than 25 tons per year for PM, less than 15 tons per year for PM10 and less than 10 tons per year for PM2.5. The requirements of 326 IAC 2-2 (PSD) are not applicable to the modification (SSM 125-32721-00002).

D.4.4 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 operations performed at facilities PB-51 (excluding ash ponds, vehicular traffic on paved and unpaved roads (includes truck hauling), conveyance systems open to the atmosphere, storage piles, tanker and truck loading/unloading, bulk material movement, and general construction activities) shall not exceed an amount determined by the following:

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

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

- (b) When the process weight rate exceeds two hundred (200) tons per hour, the allowable emission may exceed the pounds per hour limitation calculated using the above equation, provided the concentration of particulate in the discharge gases to the atmosphere is less than 0.10 pounds per one thousand (1,000) pounds of gases.

Compliance Determination Requirement

D.4.5 NSPS Compliance Provisions [326 IAC 12] [40 CFR 60, Subpart OOO]

Compliance with the particulate and opacity emission limitations in Condition D.4.2 shall be determined by the methods and procedures specified in 40 CFR 60.675.

D.4.6 Particulate Control [326 IAC 2-7-6(6)]

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

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

D.4.7 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- (a) Visible emission notations of the exhaust from the limestone/fly ash silo baghouses shall be performed once per week during normal daylight operations when the respective facilities are in operation. A trained employee shall record whether any emissions are observed.
- (b) Visible emission notations of the exhaust from all unenclosed limestone/gypsum transfer points shall be performed once per week during normal daylight when transferring the respective material. A trained employee shall record whether emissions are normal or abnormal.
- (c) Visible emissions notations of the exhaust from all unenclosed fly ash transfer points shall be performed once per day during normal daylight when transferring the respective material. A trained employee shall record whether emissions are normal or abnormal.
- (d) If visible emissions are observed crossing the property line or boundaries of the property, right-of-way, or easement on which the source is located, the Permittee shall take reasonable response steps in accordance with Section C - 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.

- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Observation of an abnormal emission that does not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (f) 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.
- (g) 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.
- (h) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

D.4.8 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 baghouses used in conjunction with the silos at least once per week when the silos are receiving material. When for any one reading, the pressure drop across the baghouse is outside the normal range of 0.5 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. 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 drop 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.4.9 Record Keeping Requirements

- (a) To document the compliance status with Section C - Opacity and Condition D.4.7, the Permittee shall maintain a weekly record of visible emission notations. 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 notations (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.4.8, the Permittee shall maintain a weekly record of the pressure drop across each baghouse. 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 notations (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (a) Coal bunker and coal scale exhausts and associated dust collector vents [326 IAC 6-3-2].
- (b) Vents from transport systems associated with the handling of various materials including but not limited to vacuum pumps associated with respective operations. [326 IAC 6-3-2].
- (c) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO₂; 5 lb/hr or 25 lb/day NO_x; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:
 - (1) Coal Pile Wind Erosion [326 IAC 6-4] [326 IAC 6-5].
 - (2) Fly ash/FGD Sludge Landfill Drop Points [326 IAC 6-4] [326 IAC 6-5].
 - (3) Fly ash/FGD Sludge Landfill Wind Erosion [326 IAC 6-4] [326 IAC 6-5].
 - (4) Sorbent unloading associated with SBS Systems [326 IAC 6-3-2]
- (d) Truck hauling on paved and unpaved roads. [326 IAC 6-4] [326 IAC 6-5]

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

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

D.5.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from coal bunker and coal scale exhausts and associated dust collector vents and vents from transport systems associated with the handling of various materials, including but not limited to vacuum pumps associated with respective operations, shall not exceed an amount determined by the following:

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.

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Fly Ash Loadout Operations

(m) One (1) fly ash railcar loading operation, identified as BH-N, constructed in 2005, with a maximum throughput rate of 37.5 tons of fly ash per hour, controlled by a baghouse, and exhausting through stack 101.

(n) One (1) fly ash railcar loading operation from Ash Silo 3, constructed in 2005, with a maximum throughput rate of 200 tons of fly ash per hour, with an enclosed drop from Silo 3 to an air-fluidized enclosed loadout slide from the silo and a gasket drop to enclosed railroad cars, controlled by baghouse B-11, and exhausting through stack 11.

(The information describing the process contained in this emissions unit 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 [326 IAC 2-2][326 IAC 6-3-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

Unit Description	PM Limit (lbs/hr)	PM10 Limit (lbs/hr)	Construction Permit
Fly Ash Railcar Loading Operation BH-N	5.68	3.40	SSM #125-20083-00002, issued on June 7, 2005
Fly Ash Rail Loading Operation from Ash Silo 3	5.69	3.40	SSM #125-21340-00002, issued on September 26, 2005

Therefore, the emissions from each of the fly ash railcar loading operations are limited to less than 25 tons/yr for PM and less than 15 tons/yr for PM₁₀, and the requirements of 326 IAC 2-2 (PSD) are not applicable to these operations when they were constructed. Compliance with this permit condition will also satisfy the requirements of 326 IAC 6-3-2.

Compliance Determination Requirement

D.6.2 PM and PM₁₀ Control [40 CFR 64]

- (a) In order to comply with Conditions D.6.1, the baghouses for particulate control shall be in operation and control emissions from the fly ash railcar loading operations at all times that these units are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

D.6.3 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)][40 CFR 64]

- (a) Visible emission notations of the baghouse stack exhausts (stacks 101 and 11) for the fly ash railcar loading operations shall be performed at least once per week during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Observation of an abnormal emission that does not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.6.4 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)][40 CFR 64]

The Permittee shall record the pressure drop across the baghouses used in conjunction with the fly ash railcar loading operations at least once per week. When for any one reading, the pressure drop across the baghouse is outside the normal ranges listed in the table below or 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.

Unit Description	Baghouse Stack ID	Pressure Drop Range (inches of water)
Fly Ash Railcar Loading Operation BH-N	101	0.5 - 6.0
Fly Ash Rail Loading Operation from Ash Silo 3	11	0.5 - 6.0

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.6.5 Record Keeping Requirements

- (a) To document the compliance status with Section C - Opacity and Condition D.6.3, the Permittee shall maintain a weekly record of visible emission notations. 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 notations (e.g. the process did not operate that day).

- (b) To document the compliance status with Condition D.6.4, the Permittee shall maintain a weekly record of the pressure drop across each baghouse. 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 notations (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Cooling Towers

- (o) One (1) Cooling Tower associated with Unit 4, identified as CT-4, permitted in 2011, with a capacity of 224,939 gallons circulating water per minute and a maximum drift rate of 0.001%.

(The information describing the process contained in this emissions unit 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 Limit [326 IAC 2-2]

The existing Unit 4 Cooling Tower shall be permanently shutdown prior to the startup of the proposed CT-4.

Compliance with the above requirement and the requirement in Condition D.4.3 will restrict the potential to emit PM from the modification approved in 2011 for the Unit 4 Cooling Tower, CT-4, and the scrubber modification (SSM 125-26913-00002) approved in 2009 (installation and operation of a limestone wet ball mill and a limestone storage silo and associated limestone and gypsum handling systems for Unit 4) to less than twenty-five (25) tons per year. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the modification approved in 2011 for the Unit 4 Cooling Tower, CT-4 nor the scrubber project (SSM 125-26913-00002) approved in 2009 (installation and operation of a limestone wet ball mill and a limestone storage silo and associated limestone and gypsum handling systems for Unit 4).

Compliance Determination Requirements

D.7.2 Particulate Control [326 IAC 2-7-6(6)]

The drift eliminators for particulate control shall be in operation and control emissions at all times that CT-4 is in operation.

SECTION D.8 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Activated Carbon Injection Systems

- (p) Activated Carbon Injection Systems, consisting of the following operations:
- (1) One (1) activated carbon injection silo, serving unit 1, identified as ACI-1, approved for construction in 2013, with a maximum storage capacity of 160 tons, and a maximum throughput of 650 lbs/hr, controlled by a bin vent filter.
 - (2) One (1) activated carbon injection silo, serving unit 2, identified as ACI-2, approved for construction in 2013, with a maximum storage capacity of 230 tons, and a maximum throughput of 1,225 lbs/hr, controlled by a bin vent filter.
 - (3) One (1) activated carbon injection silo, serving unit 3, identified as ACI-3, approved for construction in 2013, with a maximum storage capacity of 275 tons, and a maximum throughput of 1,637 lbs/hr, controlled by a bin vent filter.
 - (4) One (1) activated carbon injection silo, serving unit 4, identified as ACI-4, approved for construction in 2013, with a maximum storage capacity of 275 tons, and a maximum throughput of 1,640 lbs/hr, controlled by a bin vent filter.

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

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

D.8.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

Unit Description	PM Limit (lbs/hr)	PM10 Limit (lbs/hr)	PM2.5 Limit (lbs/hr)
ACI-1	0.12	0.06	0.06
ACI-2	0.12	0.06	0.06
ACI-3	0.12	0.06	0.06
ACI-4	0.12	0.06	0.06

Compliance with these emission limits and Condition D.4.3 together with the projected emissions increase from existing boilers, paved roads and fly ash handling will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM₁₀ per year and less than ten (10) tons of PM_{2.5} per year and therefore will render the requirements of 326 IAC 2-2 not applicable to the 2013 modification (SSM 125-32721-00002).

D.8.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emission rate from the Activated Carbon Injection Systems and Sorbent Unloading operations shall not exceed the emission limits listed in the table below:

Unit Description	Max. Throughput (tons/hr)	Particulate Emission Limit (lbs/hr)
ACI-1	0.325	1.93
ACI-2	0.6125	2.95
ACI-3	0.8185	3.59
ACI-4	0.82	3.59

The emission limits above were calculated using the equation below:

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

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

Compliance Determination Requirements

D.8.3 Particulate Control [326 IAC 2-7-6(6)]

In order to ensure compliance with the particulate matter emissions limits specified in Condition D.8.1 silo bin vent filters shall in operation and controlling emissions whenever the equipment is in operation and venting to the control device.

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

D.8.4 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

Visible emission notations of the activated carbon injection silos identified as ACI-1, ACI-2, ACI-3 and ACI-4 shall be performed once per week during normal daylight operations when the equipment is in operation. A trained employee shall record whether emissions are normal or abnormal.

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

D.8.5 Record Keeping Requirements

To document the compliance status with Condition D.8.4- Visible Emission Notation, the Permittee shall maintain weekly records of the visible emission notations from Activated Carbon injection system identified as ACI-1, ACI-2, ACI-3, and ACI-4. The Permittee shall include in its weekly record when a visible emission notation is not taken and the reason for the lack of a visible emission notation (e.g. the process did not operate that day).

SECTION D.9 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (5) One (1) 150 ton lime storage silo, identified as WWLS permitted in 2015 for construction, maximum throughput of 1865 pounds per hour, voluntarily controlled by a bin vent filter, identified as WWLS-BV-1 and exhausting to stack S-WWLS-1. [326 IAC 6-3-2]
- (6) Two (2) lime mix tanks, identified as LMT-1 and LMT-2, permitted in 2015 for construction. Each has a maximum loading rate of 939 pound per hour, voluntarily controlled by a wet scrubber and exhausting to stacks S-LMT-1 and S-LMT-2. [326 IAC 6-3-2]

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

D.9.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2(e)(1), the particulate matter (PM) from the lime storage silo and the lime mix tanks shall not exceed the pounds per hour rate (E) when operating at a process weight of (P) tons per hour as determined by the following equation.

Summary of Process Weight Rate Limits		
Process / Emission Unit	P (ton/hr)	E (lb/hr)
lime storage silo	0.93	3.91
lime mix tank (each)	0.47	2.47

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

$$E = 4.10 P^{0.67}$$

Where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

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

A Preventive Maintenance Plan is required for this facility. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 1, constructed prior to 1967, with a design capacity of 2200 MMBtu per hour. Unit 1 uses an electrostatic precipitator as control for PM emissions; FGD scrubber (installed in 1996) as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 1995) for NO_x reduction; and exhausts to stack 1-1(s) or bypass stack 1-1 (b).
- (b) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 2, constructed prior to 1969, with a design capacity of 4144 MMBtu per hour. Unit 2 uses an electrostatic precipitator or a baghouse (approved in 2015 for construction), as control for PM emissions; FGD scrubber (installed in 1996), as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); selective catalytic reduction (installed in 2004); and low NO_x burner as control for NO_x reduction, and exhausts to stack 2-1(s) or bypass stack 2-1(b).
- (c) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 3, constructed prior to 1977, with a design capacity of 5540 MMBtu per hour. Unit 3 uses an electrostatic precipitator or a baghouse, (approved in 2015 for construction) as control for PM emissions; activated carbon injection (ACI), (approved in 2013 for construction); selective catalytic reduction (installed in 2004) as control for NO_x emissions; FGD scrubber as control for SO₂ emissions and exhausts to stack 3-1.
- (d) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 4, on which construction began in 1978 and which began operation in 1986, with a design capacity of 5550 MMBtu per hour. Unit 4 uses an electrostatic precipitator as control for PM emissions; FGD scrubber as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 2001) for NO_x reduction, and exhausts to stack 4-1.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [40 CFR 63]

E.1.1 General Provisions Relating to NESHAP [326 IAC 20-82][40 CFR Part 63, Subpart A]

- (a) The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-82, apply to the Boilers 1, 2, 3, and 4.
- (b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports 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

E.1.2 NESHAP Subpart UUUUU Requirements [326 IAC 20-82][40 CFR Part 63, Subpart UUUUU]

Pursuant to 40 CFR Part 63, Subpart UUUUU, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart UUUUU, which are incorporated by reference as 326 IAC 20 (included as Attachment G to this permit), for the above listed emissions units, as specified as follows.

The four (4) Boiler Units 1, 2, 3, and 4, are subject to the following portions of Subpart UUUUU:

- (1) 40 CFR 63.9980

- (2) 40 CFR 63.9981
- (3) 40 CFR 63.9982(a)(1), (d)
- (4) 40 CFR 63.9984(b), (c), (f)
- (5) 40 CFR 63.9990(a)(1)
- (6) 40 CFR 63.9991(a)(1), (b)
- (7) 40 CFR 63.10000(a), (b), (c)(1)(i)(A), (c)(1)(iv)(B), (c)(1)(v), (c)(1)(vi), (d)(1), (d)(2), (e)
- (8) 40 CFR 63.10001
- (9) 40 CFR 63.10005(a)(2)(i), (b)(2), (b)(3), (b)(4), (d)(1), (d)(3), (e), (f), (j), (k)
- (10) 40 CFR 63.10006(i), (j)
- (11) 40 CFR 63.10007(a)(1), (b), (e)(2)(ii), (e)(2)(v), (f)
- (12) 40 CFR 63.10009
- (13) 40 CFR 63.10010(a)(1), (a)(4), (b), (d), (e), (g), (i)
- (14) 40 CFR 63.10011(a), (c), (f), (g)
- (15) 40 CFR 63.10020
- (16) 40 CFR 63.10021(a), (b), (e), (f), (g), (h), (i)
- (17) 40 CFR 63.10022(a)(1), (b)
- (18) 40 CFR 63.10030(a), (b), (d), (e)
- (19) 40 CFR 63.10031
- (20) 40 CFR 63.10032(a), (b), (c), (d)(1), (e), (f), (g), (h), (i)
- (21) 40 CFR 63.10033
- (22) 40 CFR 63.10040
- (23) 40 CFR 63.10041
- (24) 40 CFR 63.10042
- (25) 40 CFR 63, Subpart UUUUU, Table 2(1)
- (26) 40 CFR 63, Subpart UUUUU, Table 3(1), (3), (4)
- (27) 40 CFR 63, Subpart UUUUU, Table 5(1), (3), (4)
- (28) 40 CFR 63, Subpart UUUUU, Table 7(1), (5), (6), (7)
- (29) 40 CFR 63, Subpart UUUUU, Table 8
- (30) 40 CFR 63, Subpart UUUUU, Table 9

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-7-5(14)]: Insignificant Activities

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

- (e) One (1) diesel emergency internal combustion engine used to power a fire water pump, installed in 1975, identified as FP-1, with a maximum heat input capacity of 0.483 MMBtu/hr and a rating of 250 brake horsepower (bhp).

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

National Emission Standards for Hazardous Air Pollutants [40 CFR 63, Subpart ZZZZ] Emission Limitations and Standards [326 IAC 2-7-5(1)]

E.2.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants (NESHAP) [326 IAC 20-82] [40 CFR 63, Subpart A]

- (a) The provisions of 40 CFR 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-82, apply to FP-1, except when otherwise specified in 40 CFR 63, Subpart ZZZZ.
- (b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports 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

E.2.2 Stationary Reciprocating Internal Combustion Engines NESHAP [326 IAC 20-82] [40 CFR 63, Subpart ZZZZ]

Pursuant to 40 CFR 63 Subpart ZZZZ, the Permittee shall comply with the provisions of 40 CFR 63 Subpart ZZZZ (included as Attachment F to this permit), which are incorporated as 326 IAC 20-82 for the FP-1, as specified as follows:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(ii)
- (4) 40 CFR 63.6595(a)(1)
- (5) 40 CFR 63.6602
- (6) 40 CFR 63.6605
- (7) 40 CFR 63.6612
- (8) 40 CFR 63.6620
- (9) 40 CFR 63.6625(e),(f),(h),(i)
- (10) 40 CFR 63.6640(a),(b),(e),(f)
- (11) 40 CFR 63.6645(a)(5)
- (12) 40 CFR 63.6650(a),(b)(1)-(5),(c),(d),(e),(f)
- (13) 40 CFR 63.6655(a)(1),(2),(4),(b),(d),(e),(f)(1)
- (14) 40 CFR 63.6660
- (15) 40 CFR 63.6665
- (16) 40 CFR 63.6670
- (17) 40 CFR 63.6675
- (18) Table 2c(1), 6(9), 7(a) and 8.

SECTION E.3

TITLE IV CONDITIONS

ORIS Code: 994

Facility Description [326 IAC 2-7-5(14)]

- (a) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 1, constructed prior to 1967, with a design capacity of 2200 MMBtu per hour. Unit 1 uses an electrostatic precipitator as control for PM emissions; FGD scrubber (installed in 1996) as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 1995) for NO_x reduction; and exhausts to stack 1-1(s) or bypass stack 1-1 (b).
- (b) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 2, constructed prior to 1969, with a design capacity of 4144 MMBtu per hour. Unit 2 uses an electrostatic precipitator or a baghouse (approved in 2015 for construction), as control for PM emissions; FGD scrubber (installed in 1996), as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); selective catalytic reduction (installed in 2004); and low NO_x burner as control for NO_x reduction, and exhausts to stack 2-1(s) or bypass stack 2-1(b).
- (c) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 3, constructed prior to 1977, with a design capacity of 5540 MMBtu per hour. Unit 3 uses an electrostatic precipitator or a baghouse, (approved in 2015 for construction) as control for PM emissions; activated carbon injection (ACI), (approved in 2013 for construction); selective catalytic reduction (installed in 2004) as control for NO_x emissions; FGD scrubber as control for SO₂ emissions and exhausts to stack 3-1.
- (d) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 4, on which construction began in 1978 and which began operation in 1986, with a design capacity of 5550 MMBtu per hour. Unit 4 uses an electrostatic precipitator as control for PM emissions; FGD scrubber as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 2001) for NO_x reduction, and exhausts to stack 4-1.

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

Acid Rain Program

E.3.1 Acid Rain Permit [326 IAC 2-7-5(1)(C)] [326 IAC 21] [40 CFR 72 through 40 CFR 78]

Pursuant to 326 IAC 21 (Acid Deposition Control), the Permittee shall comply with all provisions of the Acid Rain permit issued for this source, and any other applicable requirements contained in 40 CFR 72 through 40 CFR 78. The Acid Rain permit for this source is attached to this permit as Appendix C, and is incorporated by reference.

E.3.2 Title IV Emissions Allowances [326 IAC 2-7-5(4)] [326 IAC 21]

Emissions exceeding any allowances that the Permittee lawfully holds under the Title IV Acid Rain Program of the Clean Air Act are prohibited, subject to the following limitations:

- (a) No revision of this permit shall be required for increases in emissions that are authorized by allowances acquired under the Title IV Acid Rain Program, provided that such increases do not require a permit revision under any other applicable requirement.
- (b) No limit shall be placed on the number of allowances held by the Permittee. The Permittee may not use allowances as a defense to noncompliance with any other applicable requirement.
- (c) Any such allowance shall be accounted for according to the procedures established in

regulations promulgated under Title IV of the Clean Air Act.

SECTION G 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)

ORIS Code: 994

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)

- (a) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 1, constructed prior to 1967, with a design capacity of 2200 MMBtu per hour. Unit 1 uses an electrostatic precipitator as control for PM emissions; FGD scrubber (installed in 1996) as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 1995) for NO_x reduction; and exhausts to stack 1-1(s) or bypass stack 1-1 (b).
- (b) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 2, constructed prior to 1969, with a design capacity of 4144 MMBtu per hour. Unit 2 uses an electrostatic precipitator or a baghouse (approved in 2015 for construction), as control for PM emissions; FGD scrubber (installed in 1996), as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction; selective catalytic reduction (installed in 2004); and low NO_x burner as control for NO_x reduction, and exhausts to stack 2-1(s) or bypass stack 2-1(b).
- (c) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 3, constructed prior to 1977, with a design capacity of 5540 MMBtu per hour. Unit 3 uses an electrostatic precipitator or a baghouse, (approved in 2015 for construction) as control for PM emissions; activated carbon injection (ACI), (approved in 2013 for construction); selective catalytic reduction (installed in 2004) as control for NO_x emissions; FGD scrubber as control for SO₂ emissions and exhausts to stack 3-1.
- (d) One (1) coal/No. 2 fuel oil fired boiler, identified as Unit 4, on which construction began in 1978 and which began operation in 1986, with a design capacity of 5550 MMBtu per hour. Unit 4 uses an electrostatic precipitator as control for PM emissions; FGD scrubber as control for SO₂ emissions; activated carbon injection (ACI), (approved in 2013 for construction); low NO_x burner (installed in 2001) for NO_x reduction, and exhausts to stack 4-1.

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

G.1 Automatic Incorporation of Definitions [326 IAC 24-1-7(e)] [326 IAC 24-2-7(e)] [326 IAC 24-3-7(e)] [40 CFR 97.123(b)] [40 CFR 97.223(b)] [40 CFR 97.323(b)]

This CAIR permit is deemed to incorporate automatically the definitions of terms under 326 IAC 24-1-2, 326 IAC 24-2-2, and 326 IAC 24-3-2.

G.2 Standard Permit Requirements [326 IAC 24-1-4(a)] [326 IAC 24-2-4(a)] [326 IAC 24-3-4(a)] [40 CFR 97.106(a)] [40 CFR 97.206(a)] [40 CFR 97.306(a)]

- (a) The owners and operators of the CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source and CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit shall operate each unit in compliance with this CAIR permit.
- (b) The CAIR NO_x unit(s), CAIR SO₂ unit(s), and CAIR NO_x ozone season unit(s) subject to this CAIR permit are Units 1, 2, 3, and 4.

G.3 Monitoring, Reporting, and Record Keeping Requirements [326 IAC 24-1-4(b)]
[326 IAC 24-2-4(b)] [326 IAC 24-3-4(b)] [40 CFR 97.106(b)] [40 CFR 97.206(b)]
[40 CFR 97.306(b)]

- (a) The owners and operators, and the CAIR designated representative, of each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source and CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit at the source shall comply with the applicable monitoring, reporting, and record keeping requirements of 326 IAC 24-1-11, 326 IAC 24-2-10, and 326 IAC 24-3-11.
- (b) The emissions measurements recorded and reported in accordance with 326 IAC 24-1-11, 326 IAC 24-2-10, and 326 IAC 24-3-11 shall be used to determine compliance by each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source with the CAIR NO_x emissions limitation under 326 IAC 24-1-4(c), CAIR SO₂ emissions limitation under 326 IAC 24-2-4(c), and CAIR NO_x ozone season emissions limitation under 326 IAC 24-3-4(c) and Condition G.4.1, Nitrogen Oxides Emission Requirements, Condition G.4.2, Sulfur Dioxide Emission Requirements, and Condition G.4.3, Nitrogen Oxides Ozone Season Emission Requirements.

G.4.1 Nitrogen Oxides Emission Requirements [326 IAC 24-1-4(c)] [40 CFR 97.106(c)]

- (a) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_x source and each CAIR NO_x unit at the source shall hold, in the source's compliance account, CAIR NO_x allowances available for compliance deductions for the control period under 326 IAC 24-1-9(i) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_x units at the source, as determined in accordance with 326 IAC 24-1-11.
- (b) A CAIR NO_x unit shall be subject to the requirements under 326 IAC 24-1-4(c)(1) for the control period starting on the applicable date, as determined under 326 IAC 24-1-4(c)(2), and for each control period thereafter.
- (c) A CAIR NO_x allowance shall not be deducted for compliance with the requirements under 326 IAC 24-1-4(c)(1), for a control period in a calendar year before the year for which the CAIR NO_x allowance was allocated.
- (d) CAIR NO_x allowances shall be held in, deducted from, or transferred into or among CAIR NO_x allowance tracking system accounts in accordance with 326 IAC 24-1-9, 326 IAC 24-1-10, and 326 IAC 24-1-12.
- (e) A CAIR NO_x allowance is a limited authorization to emit one (1) ton of nitrogen oxides in accordance with the CAIR NO_x annual trading program. No provision of the CAIR NO_x annual trading program, the CAIR permit application, the CAIR permit, or an exemption under 326 IAC 24-1-3 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 allowance does not constitute a property right.
- (g) Upon recordation by the U.S. EPA under 326 IAC 24-1-8, 326 IAC 24-1-9, 326 IAC 24-1-10, or 326 IAC 24-1-12, every allocation, transfer, or deduction of a CAIR NO_x allowance to or from a CAIR NO_x source's compliance account is incorporated automatically in this CAIR permit.

G.4.2 Sulfur Dioxide Emission Requirements [326 IAC 24-2-4(c)] [40 CFR 97.206(c)]

- (a) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO₂ source and each CAIR SO₂ unit at the source shall hold, in the source's compliance account, a tonnage equivalent of CAIR SO₂ allowances available for compliance deductions for the control period under 326 IAC 24-2-8(j) and 326 IAC 24-2-8(k) not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO₂ units at the source, as determined in accordance with 326 IAC 24-2-10.
- (b) A CAIR SO₂ unit shall be subject to the requirements under 326 IAC 24-2-4(c)(1) for the control period starting on the applicable date, as determined under 326 IAC 24-2-4(c)(2), and for each control period thereafter.
- (c) A CAIR SO₂ allowance shall not be deducted for compliance with the requirements under 326 IAC 24-2-4(c)(1), for a control period in a calendar year before the year for which the CAIR SO₂ allowance was allocated.
- (d) CAIR SO₂ allowances shall be held in, deducted from, or transferred into or among CAIR SO₂ allowance tracking system accounts in accordance with 326 IAC 24-2-8, 326 IAC 24-2-9, and 326 IAC 24-2-11.
- (e) A CAIR SO₂ allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO₂ trading program. No provision of the CAIR SO₂ trading program, the CAIR permit application, the CAIR permit, or an exemption under 326 IAC 24-2-3 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 SO₂ allowance does not constitute a property right.
- (g) Upon recordation by the U.S. EPA under 326 IAC 24-2-8, 326 IAC 24-2-9, or 326 IAC 24-2-11, every allocation, transfer, or deduction of a CAIR SO₂ allowance to or from a CAIR SO₂ source's compliance account is incorporated automatically in this CAIR permit.

G.4.3 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 24-3-9, 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.

G.5 Excess Emissions Requirements [326 IAC 24-1-4(d)] [326 IAC 24-2-4(d)] [326 IAC 24-3-4(d)]
[40 CFR 97.106(d)] [40 CFR 97.206(d)] [40 CFR 97.306(d)]

- (a) The owners and operators of a CAIR NO_x source and each CAIR NO_x unit that emits nitrogen oxides during any control period in excess of the CAIR NO_x emissions limitation shall do the following:
 - (1) Surrender the CAIR NO_x allowances required for deduction under 326 IAC 24-1-9(j)(4).
 - (2) 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 24-1-4, the Clean Air Act (CAA), and applicable state law.

- (b) The owners and operators of a CAIR SO₂ source and each CAIR SO₂ unit that emits sulfur dioxide during any control period in excess of the CAIR SO₂ emissions limitation shall do the following:
 - (1) Surrender the CAIR SO₂ allowances required for deduction under 326 IAC 24-2-8(k)(4).
 - (2) 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 24-2-4, the Clean Air Act (CAA), and applicable state law.

- (c) 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:
 - (1) Surrender the CAIR NO_x ozone season allowances required for deduction under 326 IAC 24-3-9(j)(4).
 - (2) 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.

G.6 Record Keeping Requirements [326 IAC 24-1-4(e)] [326 IAC 24-2-4(e)] [326 IAC 24-3-4(e)]
[326 IAC 2-7-5(3)] [40 CFR 97.106(e)] [40 CFR 97.206(e)] [40 CFR 97.306(e)]

Unless otherwise provided, the owners and operators of the CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source and each CAIR NO_x unit, CAIR SO₂ unit, and 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 24-1-6(h), 326 IAC 24-2-6(h), 326 IAC 24-3-6(h) for the CAIR designated representative for the source and each CAIR NO_x unit, CAIR SO₂ unit, and 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 24-1-6(h), 326 IAC 24-2-6(h), 326 IAC 24-3-6(h) changing the CAIR designated representative.
- (b) All emissions monitoring information, in accordance with 326 IAC 24-1-11, 326 IAC 24-2-10, and 326 IAC 24-3-11, provided that to the extent that 326 IAC 24-1-11, 326 IAC 24-2-10, and 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 annual trading program, CAIR SO₂ trading program, and 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 annual trading program, CAIR SO₂ trading program, and CAIR NO_x ozone season trading program or to demonstrate compliance with the requirements of the CAIR NO_x annual trading program, CAIR SO₂ trading program, and 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.

G.7 Reporting Requirements [326 IAC 24-1-4(e)] [326 IAC 24-2-4(e)] [326 IAC 24-3-4(e)]
[40 CFR 97.106(e)] [40 CFR 97.206(e)] [40 CFR 97.306(e)]

- (a) The CAIR designated representative of the CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit at the source shall submit the reports required under the CAIR NO_x annual trading program, CAIR SO₂ trading program, and CAIR NO_x ozone season trading program, including those under 326 IAC 24-1-11, 326 IAC 24-2-10, and 326 IAC 24-3-11.
- (b) Pursuant to 326 IAC 24-1-4(e), 326 IAC 24-2-4(e), and 326 IAC 24-3-4(e) and 326 IAC 24-1-6(e)(1), 326 IAC 24-2-6(e)(1), and 326 IAC 24-3-6(e)(1), each submission under the CAIR NO_x annual trading program, CAIR SO₂ trading program, and 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 24-1, 326 IAC 24-2, and 326 IAC 24-3 requires a submission to IDEM, OAQ, the information shall be submitted 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 24-1, 326 IAC 24-2, and 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

G.8 Liability [326 IAC 24-1-4(f)] [326 IAC 24-2-4(f)] [326 IAC 24-3-4(f)] [40 CFR 97.106(f)]
[40 CFR 97.206(f)] [40 CFR 97.306(f)]

The owners and operators of each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit shall be liable as follows:

- (a) Each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit shall meet the requirements of the CAIR NO_x annual trading program, CAIR SO₂ trading program, and CAIR NO_x ozone season trading program, respectively.
- (b) Any provision of the CAIR NO_x annual trading program, CAIR SO₂ trading program, and CAIR NO_x ozone season trading program that applies to a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source or the CAIR designated representative of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source shall also apply to the owners and operators of such source and of the CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit at the source.
- (c) Any provision of the CAIR NO_x annual trading program, CAIR SO₂ trading program, and CAIR NO_x ozone season trading program that applies to a CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit or the CAIR designated representative of a CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit shall also apply to the owners and operators of such unit.

G.9 Effect on Other Authorities [326 IAC 24-1-4(g)] [326 IAC 24-2-4(g)] [326 IAC 24-3-4(g)]
[40 CFR 97.106(g)] [40 CFR 97.206(g)] [40 CFR 97.306(g)]

No provision of the CAIR NO_x annual trading program, CAIR SO₂ trading program, and CAIR NO_x ozone season trading program, a CAIR permit application, a CAIR permit, or an exemption under 326 IAC 24-1-3, 326 IAC 24-2-3, and 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 source, CAIR SO₂ source, and CAIR NO_x ozone season source or CAIR NO_x unit, CAIR SO₂ unit, and 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).

G.10 CAIR Designated Representative and Alternate CAIR Designated Representative
[326 IAC 24-1-6] [326 IAC 24-2-6] [326 IAC 24-3-6] [40 CFR 97, Subpart BB] [40 CFR 97,
Subpart BBB] [40 CFR 97, Subpart BBBB]

- (a) Pursuant to 326 IAC 24-1-6, 326 IAC 24-2-6, and 326 IAC 24-3-6, each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit at the source, shall have one (1) and only one (1) CAIR designated representative, with regard to all matters under the CAIR NO_x annual trading program, CAIR SO₂ trading program, and CAIR NO_x ozone season trading program concerning the source or any CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x ozone season unit at the source.
- (b) The provisions of 326 IAC 24-1-6(f), 326 IAC 24-2-6(f), and 326 IAC 24-3-6(f) shall apply where the owners or operators of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x ozone season source choose to designate an alternate CAIR designated representative.

Except as specified in 326 IAC 24-1-6(f)(3), 326 IAC 24-2-6(f)(3), 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: Indianapolis Power & Light Company - Petersburg Generating Station
Source Address: 6925 N. State Road 57, Petersburg, Indiana 47567
Part 70 Permit No.: T 125-6565-00002

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 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: IPL - Petersburg Generating Station
Source Address: 6925 N. State Road 57, Petersburg, Indiana 47567
Part 70 Permit No.: T 125-6565-00002

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), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

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

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

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

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
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: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION
 PART 70 OPERATING PERMIT
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: IPL - Petersburg Generating Station
 Source Address: 6925 N. State Road 57, Petersburg, Indiana 47567
 Part 70 Permit No.: T 125-6565-00002

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

<p>This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

Technical Support Document (TSD) for a Part 70 Minor Permit Modification

Source Description and Location

Source Name:	IPL - Petersburg Generating Station
Source Location:	6925 N. State Road 57, Petersburg, IN 47567
County:	Pike (Washington Township)
SIC Code:	4911 (Electric Services)
Operation Permit No.:	T 125-30045-00002
Operation Permit Issuance Date:	July 18, 2013
Minor Source Modification No.:	125-36130-00002
Minor Permit Modification No.:	125-36156-00002
Permit Reviewer:	Anh Nguyen

Existing Approvals

The source was issued Part 70 Operating Permit No. T125-30045-00002 on July 18, 2013. The source has since received the following approvals:

- (a) Significant Permit Modification, T125-33773-00002, issued on January 10, 2014; and
- (b) Acid Rain - Third Renewal, AR 125-34192-00002, issued May 14, 2014; and
- (c) Significant Permit Modification, 125-34687-00002, issued June 18, 2015.

County Attainment Status

The source is located in Pike County.

Pollutant	Designation
SO ₂	Non-attainment effective October 4, 2013, for the 2010 SO ₂ standard for Washington Township. Better than national standards for the remainder of the county.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard. ¹
PM _{2.5}	Attainment effective October 27, 2011, for the annual PM _{2.5} standard for Washington Township. Unclassifiable or attainment effective April 5, 2005, for the annual PM _{2.5} standard for the remainder of the county.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard.
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

¹Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

- (a) **Ozone Standards**
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 and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Pike County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
 Pike County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **SO₂**
 U.S. EPA, in the Federal Register Notice 78 FR 47191 dated August 5, 2013, has designated Pike County - Washington Township as nonattainment for SO₂. Therefore, SO₂ emissions were reviewed pursuant to the requirements of Emission Offset, 326 IAC 2-3.
- (d) **Other Criteria Pollutants**
 Pike County County has been classified as attainment or unclassifiable in Indiana for list the pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this source is classified as a fossil fuel fired steam electric plant of 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, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Source Status - Existing Source

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:

Pollutant	Emissions (ton/yr)
PM	21,372
PM ₁₀	120,901
PM _{2.5}	31,560
SO ₂	225,015
NO _x	60,120
VOC	288.10
CO	2,745
HAPs	
Hydrogen Chloride	> 10
Total	> 25

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions".

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.

- (a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a PSD 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(ff)(1).
- (b) This existing source is a major stationary source, under Emission Offset (326 IAC 2-3), because SO₂, a nonattainment regulated pollutant, is emitted at a rate of 100 tons per year or more.
- (c) These emissions are based upon the Title V Operating Permit, T125-30045-00002, issued on July 18, 2013.
- (d) This existing source is a major source of HAPs, as defined in 40 CFR 63.2, 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).

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a new source construction application, submitted by IPL - Petersburg Generating Station on August 7, 2015, relating to the additions of lime storage silo and mix tanks. The following is a list of the proposed emission units:

- (1) One (1) 150 ton lime storage silo, identified as WWLS permitted in 2015 for construction, maximum throughput of 1865 pounds per hour, voluntarily controlled by a bin vent filter, identified as WWLS-BV-1 and exhausting to stack S-WWLS-1. [326 IAC 6-3-2]
- (2) Two (2) lime mix tanks, identified as LMT-1 and LMT-2, permitted in 2015 for construction. Each has a maximum loading rate of 939 pound per hour, voluntarily controlled by a voluntary wet scrubber and exhausting to stacks S-LMT-1 and S-LMT-2. [326 IAC 6-3-2]

Note: The proposed lime silo and the two (2) mix tanks will result in increases in associated truck traffic to the plant. The followings Delivery: lime to silo, Caustic, Ferric Chloride, Organo-sulfide, Polymer, and Waste Sludge and other existing fugitive emissions will be incorporated in the permit under Truck hauling on paved and unpaved roads. [326 IAC 6-4] [326 IAC 6-5]

- (3) Truck hauling on paved and unpaved roads. [326 IAC 6-4] [326 IAC 6-5]
 - (a) Delivery of the lime to the silo
 - (b) Delivery of Caustic
 - (c) Delivery of Ferric Chloride (FeCl₃)
 - (d) Delivery of the Organo-sulfide
 - (e) Delivery of the Polymer
 - (f) Delivery of the Waste Sludge

Enforcement Issues

There are no pending enforcement actions.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70 Modification to an Existing Source

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. If the control equipment has been determined to be integral, the table reflects the PTE after consideration of the integral control device.

Increase in PTE Before Controls of the Modification (New Units)	
Pollutant	Potential To Emit (ton/yr)
PM	3.02
PM ₁₀	1.94
PM _{2.5}	1.94
SO ₂	-
VOC	-
CO	-
NO _x	-
Single HAPs	<10
Total HAPs	<25

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

PTE Change of the Modified Process (Paved Roads modified in 2015)			
Pollutant	PTE Before Modification (ton/yr)	PTE After Modification (ton/yr)	Increase from Modification (ton/yr)
PM	528.23	546.10	17.87
PM ₁₀	106.43	110.00	3.57
PM _{2.5}	25.62	26.50	0.88

Total PTE Increase due to the Modification			
Pollutant	PTE New Emission Units (ton/yr)	Net Increase to PTE of Modified Emission Units (ton/yr)	Total PTE for New and Modified Units (ton/yr)
PM	3.02	17.87	20.89
PM ₁₀	1.94	3.57	5.51
PM _{2.5}	1.94	0.88	2.82

This source modification is subject to 326 IAC 2-7-10.5(e)((1) because the modification has the potential to emit less than 25 tons per year and greater than 5 tons per year of either PM, and PM10. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a minor permit modification issued pursuant to 326 IAC 2-7-12(b), because it does not require a case-by-case determination of an emission limitation or changes in monitoring, recordkeeping, and reporting.

Permit Level Determination – 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 minor source modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process / Emission Unit	Potential to Emit (ton/yr)							
	PM	PM ₁₀	PM _{2.5} *	SO ₂	NO _x	VOC	CO	GHGs
Paved Road modified in 2015	17.87	3.57	0.88	0.00	0.00	0.00	0.00	0.00
Lime Silo	3.00	1.93	1.93	0.00	0.01	0.00	0.00	0.00
Lime Mix tanks	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Total for Modification	20.89	5.51	2.82	0.00	0.00	0.00	0.00	0.00
PSD Significant Levels	25	15	10	40	40	100	40	75,000 CO ₂ e
Emission Offset significant levels	-	-	-	40	-	-	-	-

*PM_{2.5} listed is direct PM_{2.5}.

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court’s decision. U.S. EPA’s guidance states that U.S. EPA will no longer require PSD or Title V permits for sources “previously classified as ‘Major’ based solely on greenhouse gas emissions”.

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.

This modification to an existing major stationary source is not major because the emissions increases of all PSD regulated pollutants are less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increases of nonattainment pollutant, SO₂ are less than the Emission Offset significant level. Therefore, pursuant to 326 IAC 2 3, the Emission Offset requirements do not apply.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this modification:

NSPS [326 IAC 12 and 40 CFR Part 60]

- (a) One (1) 150 ton lime storage silo, identified as WWLS and two (2) lime mix tanks, identified as LMT-1 and LMT-2, are not subject to the requirements of the New Source Performance Standard for 40 CFR Part 60, Subpart OOO, because these units are not associated with a plant that includes a crusher or grinding mill operation. The lime is trucked in for use in the waste water treatment system.
- (b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

NESHAP [326 IAC 14, 326 IAC 20 and 40 CFR Part 63]

- (c) One (1) 150 ton lime storage silo, identified as WWLS and two (2) lime mix tanks, identified as LMT-1 and LMT-2, are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) 40 CFR Part 63, Subpart AAAAA, because these units are not part of the lime manufacturing plant. The lime is trucked in for use in the waste water treatment system
- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed modification.

CAM [40 CFR 64]

- (e) 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 Part 70 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 emission units have the potential to emit regulated pollutants (uncontrolled) less than the major source thresholds. Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the new or modified units as part of this modification.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 and 2-3 (PSD and Emission Offset)

PSD and Emission Offset applicability is discussed under the Permit Level Determination – PSD and Emission Offset section.

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

The following operations will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

- (a) One (1) 150 ton lime storage silo identified as WWLS.
- (b) Two (2) lime mix tanks identified as LMT-1 and LMT-2.
- (c) The emissions from paved roads

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2(e)(1), the particulate matter (PM) from the lime storage silo and the lime mix tanks shall be limited by the followings.

- (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:

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

Summary of Process Weight Rate Limits		
Process / Emission Unit	P (ton/hr)	E (lb/hr)
lime storage silo	0.93	3.91
lime mix tank (each)	0.47	2.47

Based on calculations, a control device is not needed to comply with this limit, since the uncontrolled potential to emit particulate matter from the lime storage silo and the mix tank; each is less than the allowable emission rates under 326 IAC 6-3-2.

326 IAC 6-4 (Fugitive Dust Emissions)

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 6-5 (Fugitive Particulate Matter Emission Limitations)

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions from the paved and unpaved roads shall continue to be controlled according to the plan submitted on April 01, 2004.

Compliance Determination and Monitoring Requirements

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.

There are no compliance determination and monitoring determination included in this modification.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. T125-30045-00002. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Modification 1: new units installed

A.3 Specifically Regulated Insignificant Activities
[326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

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

-
- (c) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO₂; 5 lb/hr or 25 lb/day NO_x; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:
 - (1) Coal Pile Wind Erosion [326 IAC 6-4] [326 IAC 6-5];
 - (2) Fly ash/FGD Sludge Landfill Drop Points [326 IAC 6-4] [326 IAC 6-5]; and
 - (3) Fly ash/FGD Sludge Landfill Wind Erosion [326 IAC 6-4] [326 IAC 6-5].
 - (4) Sorbent unloading associated with SBS Systems [326 IAC 6-3-2]
 - (5) **One (1) 150 ton lime storage silo, identified as WWLS permitted in 2015 for construction , maximum throughput of 1865 pounds per hour, voluntarily controlled by a bin vent filter, identified as WWLS-BV-1 and exhausting to stack S-WWLS-1. [326 IAC 6-3-2]**
 - (6) **Two (2) lime mix tanks, identified as LMT-1 and LMT-2, permitted in 2015 for construction . Each has a maximum loading rate of 939 pound per hour, voluntarily controlled by a wet scrubber and exhausting to stacks S-LMT-1 and S-LMT-2. [326 IAC 6-3-2]**

SECTION D.9 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (5) **One (1) 150 ton lime storage silo, identified as WWLS permitted in 2015 for construction, maximum throughput of 1865 pounds per hour, voluntarily controlled by a bin vent filter, identified as WWLS-BV-1, and exhausting to stack S-WWLS-1. [326 IAC 6-3-2]**
- (6) **Two (2) lime mix tanks, identified as LMT-1 and LMT-2, permitted in 2015 for construction. Each has a maximum loading rate of 939 pound per hour, voluntarily controlled by a wet scrubber and exhausting to stacks S-LMT-1 and S-LMT-2. [326 IAC 6-3-2]**

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

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

D.9.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2(e)(1), the particulate matter (PM) from the lime storage silo and the lime mix tanks shall not exceed the pounds per hour rate (E) when operating at a process weight of (P) tons per hour as determined by the following equation.

Summary of Process Weight Rate Limits		
Process / Emission Unit	P (ton/hr)	E (lb/hr)
lime storage silo	0.93	3.91
lime mix tank (each)	0.47	2.47

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

$$E = 4.10 P^{0.67}$$

Where E = rate of emission in pounds per hour; and
 P = process weight rate in tons per hour

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

A Preventive Maintenance Plan is required for this facility. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Change 1: The attachment id in Condition C.6 has been revised in the permit accordingly.

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

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on April 01, 2004. The plan is included as Attachment A B. The provisions of 326 IAC 6-5 are not federally enforceable.

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 125-36130-00002 and Minor Permit Modification No. 125-36156-00002. The staff recommends to the Commissioner that this Part 70 Minor Source and Minor Permit Modification be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Anh Nguyen at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-5334 or toll free at 1-800-451-6027 extension 3-5334.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

Technical Support Document - Appendix A - Emission Calculations

Company Name: Indianapolis Power & Light Company -
 Petersburg Generating Station
 Address: 6925 N. State Road 57, Petersburg, Indiana 47567
 MSM Number: T 125-36130-00002
 MPM Number: T 125-36156-00002
 Pit ID: 125-00002
 Reviewer: Anh Nguyen
 Date: 8/6/15

New Emission Units										
Uncontrolled PTE	PM	PM ₁₀	PM _{2.5}	SO ₂	NOx	VOC	CO	CO _{2e}	Total HAP	Single HAP
Paved Road (lime)	2.11	0.42	0.10	-	-	-	-	-	-	-
Paved Road (Caustic)	0.14	0.03	0.01	-	-	-	-	-	-	-
Paved Road (polymer)	0.09	0.02	0.00	-	-	-	-	-	-	-
Paved Road (FeCl3)	0.14	0.03	0.01	-	-	-	-	-	-	-
Paved Road (organic Sulfide)	0.07	0.01	0.00	-	-	-	-	-	-	-
Paved Road (Sludge)	15.32	3.06	0.75	-	-	-	-	-	-	-
Lime Silo	3.00	1.93	1.93	-	-	-	-	-	-	-
Lime Mix tanks	0.02	0.01	0.01	-	-	-	-	-	-	-
Uncontrolled PTE (ton/yr)	20.89	5.52	2.82	-	-	-	-	-	-	-
Limited PTE										
Paved Road (lime)	1.053	0.211	0.052	-	-	-	-	-	-	-
Paved Road (Caustic)	0.071	0.014	0.003	-	-	-	-	-	-	-
Paved Road (polymer)	0.047	0.009	0.002	-	-	-	-	-	-	-
Paved Road (FeCl3)	0.071	0.014	0.003	-	-	-	-	-	-	-
Paved Road (organic Sulfide)	0.035	0.007	0.002	-	-	-	-	-	-	-
Paved Road (Sludge)	7.659	1.532	0.376	-	-	-	-	-	-	-
Lime Silo	3.00	1.93	1.93	-	-	-	-	-	-	-
Lime Mix tanks	0.02	0.01	0.01	-	-	-	-	-	-	-
Limited PTE (ton/yr)	11.96	3.73	2.38	-	-	-	-	-	-	-

Note: The paved roads emissions are modification and lime silo and lime mix tanks are new emissions units.
 Paved Road limited PTE = controlled PTE (will be subject to the same Fugitive Dust Control Plan, Attachment B of Part 70 Operating Permit No. T125-30045-00002, issued on July 18, 2013)

Uncontrolled Potential to Emit (ton/yr)										
Emission Unit	PM	PM ₁₀	PM _{2.5}	SO ₂	NOx	VOC	CO	CO _{2e}	Total HAP	Single HAP
Boiler / Unit 1	66,248	15,237	3,975	116,716	9,034	36.14	344.14	2,912,207	Emission factors are after control	
Boiler / Unit 2	124,786	28,701	7,487	219,851	17,016	68.07	648.24	5,485,715		
Boiler / Unit 3	166,823	38,369	10,009	293,912	22,749	90.99	866.61	7,333,517		
Boiler / Unit 4	167,124	38,439	10,027	294,443	22,790	91.16	868.18	7,346,994		
Emergency Generator / PB-2	0.50	0.40	0.40	2.15	22.72	0.57	6.04	1,159	0.011	0.006
Emergency Generator / PB-3	0.50	0.40	0.40	2.15	22.72	0.57	6.04	1,159	0.011	0.006
Emergency Generator / PB-4	0.50	0.40	0.40	2.15	22.72	0.57	6.04	1,159	0.011	0.006
Emergency Generator (PF-1)	0.01	0.01	0.01	0.04	0.39	0.01	0.10	20	0.000	0.000
Limestone, Gypsum and Coal Handling	117.33	55.52	8.60	0.00	0.00	0.00	0.00	0.00	0.000	0.000
Fly Ash Handling	701.91	311.00	311.00	0.00	0.00	0.00	0.00	0.00	0.154	0.041
Coal Storage	13.94	6.97	1.05	0.00	0.00	0.00	0.00	0.00	0.000	0.000
Cooling Tower	9.86	8.38	8.38	0.00	0.00	0.00	0.00	0.00	0.000	0.000
Paved Roads	546.10	110.00	26.50	0.00	0.00	0.00	0.00	0.00	0.000	0.000
Lime Silo	3.00	1.93	1.93	-	-	-	-	-	-	-
Lime Mix tanks	0.02	0.01	0.01	-	-	-	-	-	-	-
Total PTE - Entire Source	526,375	121,241	31,857	924,928	71,658	288.08	2,745	> 100,000	> 25	> 10

Worst Case HAP is Hydrogen Chloride

Limited Potential to Emit (ton/yr) after Issuance										
Emission Unit	PM	PM ₁₀	PM _{2.5}	SO ₂	NOx	VOC	CO	CO _{2e}	Total HAP	Single HAP
Boiler / Unit 1	7,709	15,237	3,975	57,816	9,034	36.14	344.14	2,912,207	820.39	722.70
Boiler / Unit 2	8,348	28,701	7,487	108,904	17,016	68.07	648.24	5,485,715	1,545	1,361
Boiler / Unit 3	2,427	38,369	10,009	29,118	16,986	90.99	866.61	7,333,517	2,066	1,820
Boiler / Unit 4	2,431	38,439	10,027	29,171	17,016	91.16	868.18	7,346,994	2,070	1,823
Emergency Generator / PB-2	0.50	0.40	0.40	2.15	22.72	0.57	6.04	1,159.00	0.011	0.006
Emergency Generator / PB-3	0.50	0.40	0.40	2.15	22.72	0.57	6.04	1,159.00	0.011	0.006
Emergency Generator / PB-4	0.50	0.40	0.40	2.15	22.72	0.57	6.04	1,159.00	0.011	0.006
Emergency Generator / PF-1	0.01	0.01	0.01	0.04	0.39	0.01	0.10	20.00	0.00	0.00
Limestone, Gypsum and Coal Handling	117.33	55.52	8.60	0.00	0.00	0.0	0.00	0.00	0.00	0.00
Fly Ash Handling	49.80	29.78	29.78	0.00	0.00	0.0	0.00	0.00	0.011	0.003
Coal Storage	13.94	6.97	1.05	0.00	0.00	0.0	0.00	0.00	0.00	0.00
Cooling Tower	9.86	8.38	8.38	0.00	0.00	0.0	0.00	0.00	0.00	0.00
Paved Roads	273.06	55.01	13.25	0.00	0.00	0.0	0.00	0.00	0.00	0.00
Lime Silo	3.00	1.93	1.93	-	-	-	-	-	-	-
Lime Mix tanks	0.02	0.01	0.01	-	-	-	-	-	-	-
Total PTE - Entire Source	21,384	120,905	31,562	225,015	60,121	288.10	2,745	> 100,000	> 25	> 10
Title V Major Source Threshold	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100,000	25.00	10.00
PSD Major Source Threshold	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100,000	---	---

Worst Case HAP is Hydrogen Chloride

**Appendix A: Emission Calculations
One (1) Storage Silo - Lime**

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Pit ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

1. Process Descriptions:

Fabric filter control: 750 dscfm
0.03 gr/dscf SIP Limit
8225 tpy potential Lime usage
1865 lb/hr max loading rate

Emission Factors are from AP-42, Tables 11.12-2, SCC #3-05-011-07
(Cement unloading to elevated storage silo (pneumatic), AP-42, 06/06).
PM_{2.5} has been assumed equal to PM₁₀.
There is no emission factor for lime loading in AP-42.

2. Potential Uncontrolled Emissions:

PM		Silo Loading	transfer	PM Uncontrolled PTE			Controlled
Unit	Max Throughput (lb/hr)	Emission Factor (lb/ton)	Emission Factor (lb/ton)	(lb/hr)	(lb/day)	(tons/yr)	(tons/yr)
1 Lime Silo	1,865.00	0.73	0.0048	0.69	16.44	3.00	0.07

PM10 and PM2.5		Silo Loading	transfer	PM10 and PM2.5 Uncontrolled PTE			Controlled
Unit	Max Throughput (lb/hr)	Emission Factor (lb/ton)	Emission Factor (lb/ton)	(lb/hr)	(lb/day)	(tons/yr)	PM _{2.5} (tons/yr)
1 Lime Silo	1,865.00	0.47	0.0028	0.44	10.58	1.93	0.07

Note:
the lime silo PM allowable is 17.14 tpy and the PM PTE for is 3 tpy. Therefore the limited value will be determined by the rule or uncontrolled, whichever is less.

Methodology

Uncontrolled PTE (tpy) max thru put (lb/hr)*((Silo Loading EF (lb/ton) + Transfer Loading EF (lb/ton) *1/2000 (ton/lb)) *8760 (hr/yr) *1/2000 (ton/lb)
Controlled PTE (tpy) = 0.03 (gr/dscf) *dscf/min *60 (min/hr)*1/7000(lb/gr) * 365 (day/yr) * 2 hr/day* 1/2000 (ton/lb)

3. Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

$$P = \frac{0.93 \text{ tons/hr}}{4.1 \times (1 \wedge 0.67)} = 3.91 \text{ lb/hr (allowable)}$$

$$17.14 \text{ tons/yr}$$

with uncontrolled potential:
3.00 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.69 lb/hr (capable of complying)

with controlled potential:
1.931 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.44 lb/hr (capable of complying)

Emissions (tons/yr) = Throughput (tons/hr) * Emission Factor (lb/ton) * 8760 hr/yr ÷ 2000 lb/ton

**Appendix A: Emission Calculations
Two (2) Lime Mix tanks**

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

1. Process Descriptions:

Fabric filter control: 44 dscfm
0.03 gr/dscf SIP Limit
8225 tpy potential Lime usage
1878 lb/hr max loading rate for 2 tanks

Emission Factors are from AP-42, Tables 11.12-2, SCC #3-05-011-07
(Cement unloading to elevated storage silo (pneumatic), AP-42, 06/06).
PM_{2.5} has been assumed equal to PM₁₀.
There is no emission factor for lime loading in AP-42.

2. Potential Uncontrolled Emissions:

PM						
Unit	Max Throughput (lb/hr)	transfer	PM Uncontrolled PTE			Controlled (tons/yr)
		Emission Factor (lb/ton)	(lb/hr)	(lb/day)	(tons/yr)	
2 Lime Mix tank	1,878.00	0.0048	0.00	0.11	0.02	0.00

PM10 and PM2.5						
Unit	Max Throughput (lb/hr)	transfer	PM10 and PM2.5 Uncontrolled PTE			Controlled PM _{2.5} (tons/yr)
		Emission Factor (lb/ton)	(lb/hr)	(lb/day)	(tons/yr)	
2 Lime Mix tank	1,878.00	0.0028	0.00	0.06	0.01	0.00

Note:

Each mix tank PM allowable is 10.82 tpy and the PM PTE is 0.01 tpy. Therefore the limited PTE will be determined by the rule or uncontrolled, whichever is less.

Methodology

Uncontrolled PTE (tpy) max thru put (lb/hr)*((Silo Loading EF (lb/ton) + Transfer Loading EF (lb/ton) *1/2000 (ton/lb)) *8760 (hr/yr) *1/2000 (ton/lb)
Controlled PTE (tpy) = 0.03 (gr/dscf) *dscf/min *60 (min/hr)*1/7000(lb/gr) * 365 (day/yr) * 2 hr/day* 1/2000 (ton/lb)

5. Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 0.47 tons/hr
limit = 4.1 x (0 ^0.67) = 2.47 lb/hr (allowable each)
10.82 tons/yr

with uncontrolled potential:
0.02 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.00 lb/hr (capable of complying)

with controlled potential:
0.012 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.003 lb/hr (capable of complying)

Emissions (tons/yr) = Throughput (tons/hr) * Emission Factor (lb/ton) * 8760 hr/yr ÷ 2000 lb/ton

**Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads Lime**

**Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15**

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	1.00	1.13	1.13	40.00	45.20	4541.00	0.86	0.97	354.72
Vehicle (leaving plant) (one-way trip)	1.00	1.13	1.13	20.00	22.60	4382.00	0.83	0.94	342.30
			0.00		0.00		0.00	0.00	0.00
			0.00		0.00		0.00	0.00	0.00
Totals			2.3		67.8			1.9	697.0

Average Vehicle Weight Per Trip =

30.0

 tons/trip
Average Miles Per Trip =

0.84

 miles/trip

Unmitigated Emission Factor, Ef = $k * [(sL)^{0.91}] * (W)^{1.02}$ (Equation 1a from AP-42 13.2.1.3)
Ef = particulate emission factor (having unit s matching the unit of k)

where k =	PM	PM10	PM2.5	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
sL =	0.011	0.0022	0.00054	g/m2
W =	25.0	25.0	25.0	tons = average vehicle weight (provided by source)
	30.0	30.0	30.0	

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [(1 - P/4N)/365]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = $Ef * [(1 - P/4N)/365]$ Eext = Annual or other long term average emission factor in the same unit as k

where P =

125

 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =

365

 days per year

Unmitigated Emission Factor, Ef =	PM	PM10	PM2.5	lb/mile
Mitigated Emission Factor, Eext =	6.61	1.32	0.32	lb/mile
Dust Control Efficiency =	6.04	1.21	0.30	lb/mile
	50%	50%	50%	

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	1.17	0.23	0.06	1.07	0.21	0.05	0.54	0.11	0.03
Vehicle (leaving plant) (one-way trip)	1.13	0.23	0.06	1.03	0.21	0.05	0.52	0.10	0.03
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals (tpy)	2.30	0.46	0.11	2.11	0.42	0.10	1.05	0.21	0.05
lb/hr =	0.53	0.11	0.03	0.48	0.10	0.02	0.24	0.05	0.01

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PTE = Potential to Emit

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads Caustic

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	1.00	0.09	0.09	35.00	3.01	4541.00	0.86	0.07	27.00
Vehicle (leaving plant) (one-way trip)	1.00	0.09	0.09	18.00	1.55	4382.00	0.83	0.07	26.05
			0.00		0.00		0.00	0.00	0.00
			0.00		0.00			0.00	0.00
Totals			0.2		4.6			0.1	53.0

Average Vehicle Weight Per Trip =

26.5	tons/trip
------	-----------

 Average Miles Per Trip =

0.84	miles/trip
------	------------

Unmitigated Emission Factor, Ef = $k * [(sL)^{0.91} * (W)^{1.02}]$ (Equation 1a from AP-42 13.2.1.3)
 Ef = particulate emission factor (having unit s matching the unit of k)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
sL =	25.0	25.0	25.0	g/m ²
W =	26.5	26.5	26.5	tons = average vehicle weight (provided by source)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [(1 - P/4N)/365]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = $Ef * [(1 - P/4N)/365]$ Eext = Annual or other long term average emission factor in the same unit as k

where P =

125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
-----	---

 N =

365	days per year
-----	---------------

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	5.82	1.16	0.29	lb/mile
Mitigated Emission Factor, Eext =	5.33	1.07	0.26	lb/mile
Dust Control Efficiency =	50%	50%	50%	

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.08	0.02	0.00	0.07	0.01	0.00	0.04	0.01	0.00
Vehicle (leaving plant) (one-way trip)	0.08	0.02	0.00	0.07	0.01	0.00	0.03	0.01	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals (tpy)	0.15	0.03	0.01	0.14	0.03	0.01	0.07	0.01	0.00
lb/hr =	0.04	0.01	0.00	0.03	0.01	0.00	0.02	0.00	0.00

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads Polymer

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	1.00	0.06	0.06	35.00	2.00	4541.00	0.86	0.05	17.89
Vehicle (leaving plant) (one-way trip)	1.00	0.06	0.06	18.00	1.03	4382.00	0.83	0.05	17.27
			0.00		0.00		0.00	0.00	0.00
			0.00		0.00			0.00	0.00
Totals			0.1		3.0			0.1	35.2

Average Vehicle Weight Per Trip =

26.5	tons/trip
------	-----------

 Average Miles Per Trip =

0.84	miles/trip
------	------------

Unmitigated Emission Factor, Ef = $k * [(sL)^{0.91} * (W)^{1.02}]$ (Equation 1a from AP-42 13.2.1.3)
 Ef = particulate emission factor (having unit s matching the unit of k)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
sL =	25.0	25.0	25.0	g/m ²
W =	26.5	26.5	26.5	tons = average vehicle weight (provided by source)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [(1 - P/4N)/365]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = $Ef * [(1 - P/4N)/365]$ Eext = Annual or other long term average emission factor in the same unit as k

where P =

125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
-----	---

 N =

365	days per year
-----	---------------

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	5.82	1.16	0.29	lb/mile
Mitigated Emission Factor, Eext =	5.33	1.07	0.26	lb/mile
Dust Control Efficiency =	50%	50%	50%	

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.05	0.01	0.00	0.05	0.01	0.00	0.02	0.00	0.00
Vehicle (leaving plant) (one-way trip)	0.05	0.01	0.00	0.05	0.01	0.00	0.02	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals (tpy)	0.10	0.02	0.01	0.09	0.02	0.00	0.05	0.01	0.00
lb/hr =	0.02	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00

Methodology

- Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
- Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
- Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
- Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
- Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
- Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
- Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
- Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- PTE = Potential to Emit

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads FeCl3

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	1.00	0.09	0.09	35.00	3.01	4541.00	0.86	0.07	27.00
Vehicle (leaving plant) (one-way trip)	1.00	0.09	0.09	18.00	1.55	4382.00	0.83	0.07	26.05
			0.00		0.00		0.00	0.00	0.00
			0.00		0.00		0.00	0.00	0.00
Totals			0.2		4.6			0.1	53.0

Average Vehicle Weight Per Trip = 26.5 tons/trip
 Average Miles Per Trip = 0.84 miles/trip

Unmitigated Emission Factor, Ef = $k * [(sL)^{0.91} * (W)^{1.02}]$ (Equation 1a from AP-42 13.2.1.3)

Ef = particulate emission factor (having unit s matching the unit of k)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
sL =	25.0	25.0	25.0	g/m2
W =	26.5	26.5	26.5	tons = average vehicle weight (provided by source)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [(1 - P/4N)/365]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [(1 - P/4N)/365] Eext = Annual or other long term average emission factor in the same unit as k

where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
 N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	5.82	1.16	0.29	lb/mile
Mitigated Emission Factor, Eext =	5.33	1.07	0.26	lb/mile
Dust Control Efficiency =	50%	50%	50%	

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.08	0.02	0.00	0.07	0.01	0.00	0.04	0.01	0.00
Vehicle (leaving plant) (one-way trip)	0.08	0.02	0.00	0.07	0.01	0.00	0.03	0.01	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals (tpy)	0.15	0.03	0.01	0.14	0.03	0.01	0.07	0.01	0.00
lb/hr =	0.04	0.01	0.00	0.03	0.01	0.00	0.02	0.00	0.00

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads Organo-Sulfide

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	1.00	0.04	0.04	35.00	1.51	4541.00	0.86	0.04	13.50
Vehicle (leaving plant) (one-way trip)	1.00	0.04	0.04	18.00	0.77	4382.00	0.83	0.04	13.03
			0.00		0.00		0.00	0.00	0.00
			0.00		0.00		0.00	0.00	0.00
Totals			0.1		2.3			0.1	26.5

Average Vehicle Weight Per Trip = 26.5 tons/trip
 Average Miles Per Trip = 0.84 miles/trip

Unmitigated Emission Factor, Ef = $k * [(sL)^{0.91} * (W)^{1.02}]$ (Equation 1a from AP-42 13.2.1.3)

Ef = particulate emission factor (having unit s matching the unit of k)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
sL =	25.0	25.0	25.0	g/m ²
W =	26.5	26.5	26.5	tons = average vehicle weight (provided by source)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [(1 - P/4N)/365]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [(1 - P/4N)/365] Eext = Annual or other long term average emission factor in the same unit as k

where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
 N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	5.82	1.16	0.29	lb/mile
Mitigated Emission Factor, Eext =	5.33	1.07	0.26	lb/mile
Dust Control Efficiency =	50%	50%	50%	

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.04	0.01	0.00	0.04	0.01	0.00	0.02	0.00	0.00
Vehicle (leaving plant) (one-way trip)	0.04	0.01	0.00	0.03	0.01	0.00	0.02	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals (tpy)	0.08	0.02	0.00	0.07	0.01	0.00	0.04	0.01	0.00
lb/hr =	0.02	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads Sludge Removal

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	1.00	8.96	8.96	20.00	179.20	4013.00	0.76	6.81	2485.63
Vehicle (leaving plant) (one-way trip)	1.00	8.96	8.96	40.00	358.40	4171.00	0.79	7.08	2583.49
			0.00		0.00		0.00	0.00	0.00
			0.00		0.00		0.00	0.00	0.00
Totals			17.9		537.6			13.9	5069.1

Average Vehicle Weight Per Trip = 30.0 tons/trip
 Average Miles Per Trip = 0.78 miles/trip

Unmitigated Emission Factor, Ef = $k * [(sL)^{0.91} * (W)^{1.02}]$ (Equation 1a from AP-42 13.2.1.3)

Ef = particulate emission factor (having unit s matching the unit of k)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
sL =	25.0	25.0	25.0	g/m2
W =	30.0	30.0	30.0	tons = average vehicle weight (provided by source)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [(1 - P/4N)/365]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [(1 - P/4N)/365] Eext = Annual or other long term average emission factor in the same unit as k

where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
 N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.61	1.32	0.32	lb/mile
Mitigated Emission Factor, Eext =	6.04	1.21	0.30	lb/mile
Dust Control Efficiency =	50%	50%	50%	

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	8.21	1.64	0.40	7.51	1.50	0.37	3.76	0.75	0.18
Vehicle (leaving plant) (one-way trip)	8.54	1.71	0.42	7.81	1.56	0.38	3.90	0.78	0.19
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals (tpy)	16.75	3.35	0.82	15.32	3.06	0.75	7.66	1.53	0.38
lb/hr =	3.82	0.76	0.19	3.50	0.70	0.17	1.75	0.35	0.09

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

**Technical Support Document - Appendix A - Emission Calculation Sheet
Fugitive Emissions from Paved Roads**

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Pit ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Average Vehicle Weight Calculation							
Vehicle Type	Trucks/Day	Average Weight (tons)	Total Trips per Year	Miles per Trip	Vehicle Miles Traveled (miles per year)	Traffic Component (%)	Component Weight (tons)
Semi - Truck	1200	13.5	438,000	0.9	394,200	100.000%	13.50
Total VMT					394,200		
Average Vehicle Weight (tons) - W							13.50

Site Specific Constants				
Value Name	Symbol	Value	Units	Source
Emission Factor	E	---	lb/VMT	Calculated
Particle Size Multiplier	k for PM	0.011	lb/VMT	AP-42 Table 13.2.1-1, January 2011
Particle Size Multiplier	k for PM10	0.0022	lb/VMT	AP-42 Table 13.2.1-1, January 2011
Particle Size Multiplier	k for PM2.5	0.00054	lb/VMT	AP-42 Table 13.2.1-1, January 2011
Silt Loading	sL (Winter)	25	g/cubic meter	Previous Determination
Silt Loading	sL (Non-Winter)	25	g/cubic meter	Previous Determination
Winter Days	Winter Days	90	days	Estimated by IDEM
Non-Winter Days	Non-Winter Days	275	days	Estimated by IDEM
Days >0.01" of rain	P	125	days	AP-42, Figure 13.2.1-2, January 2011
Total Days in Period	N	365	days	Days in the period
Mean Vehicle Weight	W	13.50	tons	Calculated above

Winter Emission Factor Calculations		
$E = [k * (sL \text{ for winter})^{0.91} * (W)^{1.02}] * [1 - P/(4 * N)]$		AP-42, Chapter 13.2.1-5, January 2011, Eq. 2
E for PM (lb/VMT) =	2.68 lb/VMT	
E for PM10 (lb/VMT) =	0.54 lb/VMT	
E for PM2.5 (lb/VMT) =	0.13 lb/VMT	

Non-Winter Emission Factor Calculations		
$E = [k * (sL \text{ for non-winter})^{0.91} * (W)^{1.02}] * [1 - P/(4 * N)]$		AP-42, Chapter 13.2.1-5, January 2011, Eq. 2
E for PM (lb/VMT) =	2.68 lb/VMT	
E for PM10 (lb/VMT) =	0.54 lb/VMT	
E for PM2.5 (lb/VMT) =	0.13 lb/VMT	

Annual Average Emission Factors		
Annual Average Emission Factor = [Winter Days * Winter Factor + Non-Winter Days * Non-Winter Factor] / 365		
E for PM (lb/VMT) =	2.68 lb/VMT	
E for PM10 (lb/VMT) =	0.54 lb/VMT	
E for PM2.5 (lb/VMT) =	0.13 lb/VMT	

Uncontrolled Potential to Emit		
PM Emissions (TPY) = [Annual Average E for PM (lb/VMT) * Total VMT/yr * 1 ton / 2,000 lb]		528.23 TPY
PM10 Emissions (TPY) = [Annual Average E for PM10 (lb/VMT) * Total VMT/yr * 1 ton / 2,000 lb]		106.43 TPY
PM2.5 Emissions (TPY) = [Annual Average E for PM2.5 (lb/VMT) * Total VMT/yr * 1 ton / 2,000 lb]		25.62 TPY

Limited Potential to Emit		
Control Efficiency	50.00% [326 IAC 6-4][326 IAC 6-5]	
Limited PM Emissions (TPY) = Potential to Emit PM * (1 - Control Efficiency)		264.12 TPY
Limited PM10 Emissions (TPY) = Potential to Emit PM10 * (1 - Control Efficiency)		53.22 TPY
Limited PM2.5 Emissions (TPY) = Potential to Emit PM2.5 * (1 - Control Efficiency)		12.81 TPY

Technical Support Document - Appendix A - Emission Calculations

Boiler - Unit #1

Company Name: Indianapolis Power & Light Company -
 Petersburg Generating Station
 Address: 6925 N. State Road 57, Petersburg, Indiana 47567
 MSM Number: T 125-36130-00002
 MPM Number: T 125-36156-00002
 Plt ID: 125-00002
 Reviewer: Anh Nguyen
 Date: 8/6/15

Coal Combustion															
Heat Input Capacity	2,200 MMBtu/hr	<table border="1"> <thead> <tr> <th colspan="3">Permit Limits</th> </tr> </thead> <tbody> <tr> <td>SO2 (Coal)</td> <td>6.00</td> <td>lb/MMBtu</td> </tr> <tr> <td>SO2 (Fuel Oil)</td> <td>0.50</td> <td>lb/MMBtu</td> </tr> <tr> <td>PM</td> <td>0.80</td> <td>lb/MMBtu</td> </tr> </tbody> </table>		Permit Limits			SO2 (Coal)	6.00	lb/MMBtu	SO2 (Fuel Oil)	0.50	lb/MMBtu	PM	0.80	lb/MMBtu
Permit Limits															
SO2 (Coal)	6.00			lb/MMBtu											
SO2 (Fuel Oil)	0.50			lb/MMBtu											
PM	0.80			lb/MMBtu											
Coal Heat Content	8,000 Btu/lb Coal														
Coal Throughput	1,204,500 tons/yr														
Sulfur Wt%	5.10%														
% Ash	11.00%														

Uncontrolled Potential to Emit			
Pollutant	Emission Factor (lb/ton)	PTE (ton/yr)	Emission Factor Source
PM	110.00	66,248	AP-42, 9/98, Table 1.1-4, SCC 1-01-002-02/22
PM10 (Fil+Cond)	25.30	15,237	AP-42, 9/98, Table 1.1-4, SCC 1-01-002-02/22
PM2.5	6.60	3,975	AP-42, 9/98, Table 1.1-6
SO2	193.80	116,716	AP-42, 9/98, Table 1.1-3, SCC 1-03-002-16
NOx	15.00	9,034	AP-42, 9/98, Table 1.1-3, SCC 1-02-002-12
VOC	0.06	36.14	AP-42, 9/98, Table 1.1-19, SCC 1-01-002-12/26
CO	0.50	301.13	AP-42, 9/98, Table 1.1-3, SCC 1-03-002-16

Potential to Emit after Issuance (PTE)		Methodology:	
Pollutant	PTE (ton/yr)	PTE (ton/yr) = throughput (TPY) * E.F. (lb/ton) / 2,000 lb/ton PTE (lb/hr) = PTE (TPY) * 2,000 lb/ton / 8,760 hr/yr Limited PTE (TPY) = [Heat input (MMBtu/hr) * Limit (lb/MMBtu) * 8,760 hr/yr] / 2,000 lb/ton NOTES: AP-42, Table 1.1-5 lists Filterable PM as 0.02 lb PM/MMBtu or 0.00016 lb PM per ton coal.	
PM10 (Fil+Cond)	15,237		
PM2.5	3,975		
NOx	9,034		
VOC	36.14		
CO	301.13		
Pollutant	Emission Limit (lb/MMBtu)	Limited PTE (lb/hr)	Limited PTE (ton/yr)
SO2	6.00	13,200	57,816
PM	0.80	1,760	7,709

Boiler - Unit #1 - Continued

Fuel Oil Combustion	
Heat Input Capacity	2,200.00 MMBtu/hr
Fuel Oil Throughput	137,657 Kgal/yr
Wt% Sulfur	0.30%

Uncontrolled Potential to Emit			
Pollutant	Emission Factor (lb/Kgal)	PTE (ton/yr)	Emission Factor Source
PM	2.00	137.66	AP-42, Table 1.3-1, 5/10, SCC 1-01-005-01
PM10 (Fil+Cond)	1.00	68.83	AP-42, Table 1.3-6, 5/10
PM2.5	0.25	17.21	AP-42, Table 1.3-6, 5/10
SO2	42.60	2,932	AP-42, Table 1.3-1, 5/10, SCC 1-01-005-01
NOx	24.00	1,652	AP-42, Table 1.3-1, 5/10, SCC 1-02-005-01
VOC	0.20	13.77	AP-42, Table 1.3-3, 5/10, SCC1-02-005-01/02/03
CO	5.00	344.14	AP-42, Table 1.3-1, 5/10, SCC 1-03-005-01

Potential to Emit after Issuance (PTE)	
Pollutant	PTE (ton/yr)
PM	137.66
PM10 (Fil+Cond)	68.83
PM2.5	17.21
NOx	1,652
VOC	13.77
CO	344.14
SO2	2,932

326 IAC 7-1.1 Limitation		
Pollutant	Emission Limitation	Limited PTE (ton/yr)
SO2	0.50	4,818

Note:
 The potential to emit using fuel oil is less than the allowable emissions under 326 IAC 7-1.1 for SO2. The potential to emit after issuance will be shown as the PTE of the emission unit of 2,932 TPY.

Notes:
 1) Coal combustion produces the worst case emissions for all pollutants except CO.
 2) PTE and Limited PTE will be controlled by coal combustion for all pollutants except CO.

Boiler - Unit #1 - Continued

Coal Combustion - HAP Emissions

Company Name: Indianapolis Power & Light Company -
 Petersburg Generating Station
 Address: 6925 N. State Road 57, Petersburg, Indiana 47567
 MSM Number: T 125-36130-00002
 MPM Number: T 125-36156-00002
 Plt ID: 125-00002
 Reviewer: Anh Nguyen
 Date: 8/6/15

Coal Throughput		1,204,500.00	tons/yr	
Controlled Potential to Emit				
Pollutant	Emission Factor (lb/ton coal)	PTE (lb/hr)	PTE (ton/yr)	Emission Factor Source
Total Dioxins-Furans	1.79E-09	2.46E-07	1.08E-06	Controlled, AP-42, 9/98, Table 1.1-12
Biphenyl	1.70E-06	2.34E-04	1.02E-03	Controlled, AP-42, 9/98, Table 1.1-13
Naphthalene	1.30E-05	0.0018	0.0078	Controlled, AP-42, 9/98, Table 1.1-13
Acetaldehyde	5.70E-04	0.0784	0.3433	Controlled, AP-42, 9/98, Table 1.1-14
Acetophenone	1.50E-05	0.0021	0.0090	Controlled, AP-42, 9/98, Table 1.1-14
Acrolein	2.90E-04	0.0399	0.1747	Controlled, AP-42, 9/98, Table 1.1-14
Benzene	1.30E-03	0.1788	0.7829	Controlled, AP-42, 9/98, Table 1.1-14
Benzyl Chloride	7.00E-04	0.0963	0.4216	Controlled, AP-42, 9/98, Table 1.1-14
Bis (2-ethylhexyl) phthalate	7.30E-05	0.0100	0.0440	Controlled, AP-42, 9/98, Table 1.1-14
Bromoform	3.90E-05	0.0054	0.0235	Controlled, AP-42, 9/98, Table 1.1-14
Carbon disulfide	1.30E-04	0.0179	0.0783	Controlled, AP-42, 9/98, Table 1.1-14
2-Chloroacetophenone	7.00E-06	0.0010	0.0042	Controlled, AP-42, 9/98, Table 1.1-14
Chlorobenzene	2.20E-05	0.0030	0.0132	Controlled, AP-42, 9/98, Table 1.1-14
Chloroform	5.90E-05	0.0081	0.0355	Controlled, AP-42, 9/98, Table 1.1-14
Cumene	5.30E-06	0.0007	0.0032	Controlled, AP-42, 9/98, Table 1.1-14
Cyanide	2.50E-03	0.3438	1.5056	Controlled, AP-42, 9/98, Table 1.1-14
2,4-Dinitrotoluene	2.80E-07	3.85E-05	1.69E-04	Controlled, AP-42, 9/98, Table 1.1-14
Dimethyl sulfate	4.80E-05	0.0066	0.0289	Controlled, AP-42, 9/98, Table 1.1-14
Ethyl benzene	9.40E-05	0.0129	0.0566	Controlled, AP-42, 9/98, Table 1.1-14
Ethyl chloride	4.20E-05	0.0058	0.0253	Controlled, AP-42, 9/98, Table 1.1-14
Ethylene dichloride	4.00E-05	0.0055	0.0241	Controlled, AP-42, 9/98, Table 1.1-14
Ethylene dibromide	1.20E-06	1.65E-04	7.23E-04	Controlled, AP-42, 9/98, Table 1.1-14
Formaldehyde	2.40E-04	0.0330	0.1445	Controlled, AP-42, 9/98, Table 1.1-14
Hexane	6.70E-05	0.0092	0.0404	Controlled, AP-42, 9/98, Table 1.1-14
Isophorone	5.80E-04	0.0798	0.3493	Controlled, AP-42, 9/98, Table 1.1-14
Methyl bromide	1.60E-04	0.0220	0.0964	Controlled, AP-42, 9/98, Table 1.1-14
Methyl chloride	5.30E-04	0.0729	0.3192	Controlled, AP-42, 9/98, Table 1.1-14
Methyl hydrazine	1.70E-04	0.0234	0.1024	Controlled, AP-42, 9/98, Table 1.1-14
Methyl methacrylate	2.00E-05	0.0028	0.0120	Controlled, AP-42, 9/98, Table 1.1-14
Methylene chloride	2.90E-04	0.0399	0.1747	Controlled, AP-42, 9/98, Table 1.1-14
Phenol	1.60E-05	0.0022	0.0096	Controlled, AP-42, 9/98, Table 1.1-14
Propionaldehyde	3.80E-04	0.0523	0.2289	Controlled, AP-42, 9/98, Table 1.1-14
Tetrachloroethylene	4.30E-05	0.0059	0.0259	Controlled, AP-42, 9/98, Table 1.1-14
Toluene	2.40E-04	0.0330	0.1445	Controlled, AP-42, 9/98, Table 1.1-14
1,1,1-Trichloroethane	2.00E-05	0.0028	0.0120	Controlled, AP-42, 9/98, Table 1.1-14
Styrene	2.50E-05	0.0034	0.0151	Controlled, AP-42, 9/98, Table 1.1-14
Xylenes	3.70E-05	0.0051	0.0223	Controlled, AP-42, 9/98, Table 1.1-14
Vinyl acetate	7.60E-06	1.05E-03	4.58E-03	Controlled, AP-42, 9/98, Table 1.1-14
Hydrogen Chloride	1.20E+00	165.0000	722.7000	Controlled, AP-42, 9/98, Table 1.1-15
Hydrogen Fluoride	1.50E-01	20.6250	90.3375	Controlled, AP-42, 9/98, Table 1.1-15
Antimony	1.85E-05	0.0025	0.0111	Controlled, AP-42, 9/98, Table 1.1-18
Arsenic	4.10E-04	0.0564	0.2469	Controlled, AP-42, 9/98, Table 1.1-18
Beryllium	2.10E-05	0.0029	0.0126	Controlled, AP-42, 9/98, Table 1.1-18
Cadmium	5.10E-05	0.0070	0.0307	Controlled, AP-42, 9/98, Table 1.1-18
Chromium	2.60E-04	0.0358	0.1566	Controlled, AP-42, 9/98, Table 1.1-18
Chromium (VI)	7.90E-05	0.0109	0.0476	Controlled, AP-42, 9/98, Table 1.1-18
Cobalt	1.00E-04	0.0138	0.0602	Controlled, AP-42, 9/98, Table 1.1-18
Lead	4.20E-04	0.0578	0.2529	Controlled, AP-42, 9/98, Table 1.1-18
Manganese	4.90E-04	0.0674	0.2951	Controlled, AP-42, 9/98, Table 1.1-18
Nickel	2.80E-04	0.0385	0.1686	Controlled, AP-42, 9/98, Table 1.1-18
Selenium	1.30E-03	0.1788	0.7829	Controlled, AP-42, 9/98, Table 1.1-18
Total HAPs		187.30	820.39	lb/hr & TPY
Single HAP		165.00	722.70	lb/hr & TPY

Uncontrolled PTE Summary - Coal vs Fuel Oil

Pollutant	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Coal Combustion	66,248	15,237	3,975	116,716	9,034	36.14	301.13
Fuel Oil Combustion	137.66	68.83	17.21	2,932	1,652	13.77	344.14
Worst Case	66,248	15,237	3,975	116,716	9,034	36.14	344.14

Limited PTE Summary - Coal vs Fuel Oil

Pollutant	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Coal Combustion	7,709	15,237	3,975	57,816	9,034	36.14	301.13
Fuel Oil Combustion	137.66	68.83	17.21	2,932	1,652	13.77	344.14
Worst Case	7,709	15,237	3,975	57,816	9,034	36.14	344.14

Technical Support Document - Appendix A - Emission Calculations

Boiler - Unit #2

Company Name: Indianapolis Power & Light Company -
 Petersburg Generating Station
 Address: 6925 N. State Road 57, Petersburg, Indiana 47567
 MSM Number: T 125-36130-00002
 MPM Number: T 125-36156-00002
 Plt ID: 125-00002
 Reviewer: Anh Nguyen
 Date: 8/6/15

Coal Combustion			
Heat Input Capacity	4,144 MMBtu/hr	Permit Limits	
Coal Heat Content	8,000 Btu/lb Coal	SO2 (Coal)	6.00 lb/MMBtu
Coal Throughput	2,268,840 tons/yr	SO2 (Fuel Oil)	0.50 lb/MMBtu
Sulfur Wt%	5.10%	PM	0.46 lb/MMBtu
% Ash	11.00%		
Uncontrolled Potential to Emit			
Pollutant	Emission Factor (lb/ton)	PTE (ton/yr)	Emission Factor Source
PM	110.00	124,786	AP-42, 9/98, Table 1.1-4, SCC 1-01-002-02/22
PM10 (Fil+Cond)	25.30	28,701	AP-42, 9/98, Table 1.1-4, SCC 1-01-002-02/22
PM2.5	6.60	7,487	AP-42, 9/98, Table 1.1-6
SO2	193.80	219,851	AP-42, 9/98, Table 1.1-3, SCC 1-03-002-16
NOx	15.00	17,016	AP-42, 9/98, Table 1.1-3, SCC 1-02-002-12
VOC	0.06	68.07	AP-42, 9/98, Table 1.1-19, SCC 1-01-002-12
CO	0.50	567.21	AP-42, 9/98, Table 1.1-3, SCC 1-03-002-16

Potential to Emit after Issuance (PTE)			
Pollutant	PTE (ton/yr)		
PM10 (Fil+Cond)	28,701		
PM2.5	7,487		
NOx	17,016		
VOC	68.07		
CO	567.21		
Pollutant	Emission Limit (lb/MMBtu)	Limited PTE (lb/hr)	Limited PTE (ton/yr)
SO2	6.00	24,864	108,904
PM	0.46	1,906	8,348

Methodology:

PTE (ton/yr) = throughput (TPY) * E.F. (lb/ton) / 2,000 lb/ton

PTE (lb/hr) = PTE (TPY) * 2,000 lb/ton / 8,760 hr/yr

Limited PTE (TPY) = [Heat input (MMBtu/hr) * Limit (lb/MMBtu) * 8,760 hr/yr] / 2,000 lb/ton

Boiler - Unit #2 - Continued

Fuel Oil Combustion			
Heat Input Capacity	4,144.00 MMBtu/hr		
Fuel Oil Throughput	259,296 Kgal/yr		
Wt% Sulfur	0.30%		
Uncontrolled Potential to Emit			
Pollutant	Emission Factor (lb/Kgal)	PTE (ton/yr)	Emission Factor Source
PM	2.00	259.30	AP-42, Table 1.3-1, 5/10, SCC 1-01-005-01
PM10 (Fil+Cond)	1.00	129.65	AP-42, Table 1.3-6, 5/10
PM2.5	0.25	32.41	AP-42, Table 1.3-6, 5/10
SO2	42.60	5,523	AP-42, Table 1.3-1, 5/10, SCC 1-01-005-01
NOx	24.00	3,112	AP-42, Table 1.3-1, 5/10, SCC 1-02-005-01
VOC	0.20	25.93	AP-42, Table 1.3-3, 5/10, SCC1-02-005-01/02/03
CO	5.00	648.24	AP-42, Table 1.3-1, 5/10, SCC 1-03-005-01

Potential to Emit after Issuance (PTE)		326 IAC 7-1.1 Limitation		
Pollutant	PTE (ton/yr)	Pollutant	Emission Limitation (lb/MMBtu)	Limited PTE (TPY)
PM	259.30	SO2	0.50	9,075
PM10 (Fil+Cond)	129.65			
PM2.5	32.41			
NOx	3,112			
VOC	25.93			
CO	648.24			
SO2	5,523			

Note:

The potential to emit using fuel oil is less than the allowable emissions under 326 IAC 7-1.1 for SO2. The potential to emit after issuance will be shown as the PTE of the emission unit of 5,523 TPY.

- Notes:**
- Coal combustion produces the worst case emissions for all pollutants except CO.
 - PTE and Limited PTE will be controlled by coal combustion for all pollutants except CO.

Boiler - Unit #2 - Continued
Company Name: Indianapolis Power & Light Company - Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Coal Combustion - HAP Emissions				
Coal Throughput	2,268,840.00	tons/yr		
Controlled Potential to Emit				
Pollutant	Emission Factor (lb/ton coal)	PTE (lb/hr)	PTE (ton/yr)	Emission Factor Source
Total Dioxins-Furans	1.79E-09	4.64E-07	2.03E-06	Controlled, AP-42, 9/98, Table 1.1-12
Biphenyl	1.70E-06	4.40E-04	1.93E-03	Controlled, AP-42, 9/98, Table 1.1-13
Naphthalene	1.30E-05	0.0034	0.0147	Controlled, AP-42, 9/98, Table 1.1-13
Acetaldehyde	5.70E-04	0.1476	0.6466	Controlled, AP-42, 9/98, Table 1.1-14
Acetophenone	1.50E-05	0.0039	0.0170	Controlled, AP-42, 9/98, Table 1.1-14
Acrolein	2.90E-04	0.0751	0.3290	Controlled, AP-42, 9/98, Table 1.1-14
Benzene	1.30E-03	0.3367	1.4747	Controlled, AP-42, 9/98, Table 1.1-14
Benzyl Chloride	7.00E-04	0.1813	0.7941	Controlled, AP-42, 9/98, Table 1.1-14
Bis (2-ethylhexyl) phthalate	7.30E-05	0.0189	0.0828	Controlled, AP-42, 9/98, Table 1.1-14
Bromoform	3.90E-05	0.0101	0.0442	Controlled, AP-42, 9/98, Table 1.1-14
Carbon disulfide	1.30E-04	0.0337	0.1475	Controlled, AP-42, 9/98, Table 1.1-14
2-Chloroacetophenone	7.00E-06	0.0018	0.0079	Controlled, AP-42, 9/98, Table 1.1-14
Chlorobenzene	2.20E-05	0.0057	0.0250	Controlled, AP-42, 9/98, Table 1.1-14
Chloroform	5.90E-05	0.0153	0.0669	Controlled, AP-42, 9/98, Table 1.1-14
Cumene	5.30E-06	0.0014	0.0060	Controlled, AP-42, 9/98, Table 1.1-14
Cyanide	2.50E-03	0.6475	2.8361	Controlled, AP-42, 9/98, Table 1.1-14
2,4-Dinitrotoluene	2.80E-07	7.25E-05	3.18E-04	Controlled, AP-42, 9/98, Table 1.1-14
Dimethyl sulfate	4.80E-05	0.0124	0.0545	Controlled, AP-42, 9/98, Table 1.1-14
Ethyl benzene	9.40E-05	0.0243	0.1066	Controlled, AP-42, 9/98, Table 1.1-14
Ethyl chloride	4.20E-05	0.0109	0.0476	Controlled, AP-42, 9/98, Table 1.1-14
Ethylene dichloride	4.00E-05	0.0104	0.0454	Controlled, AP-42, 9/98, Table 1.1-14
Ethylene dibromide	1.20E-06	3.11E-04	1.36E-03	Controlled, AP-42, 9/98, Table 1.1-14
Formaldehyde	2.40E-04	0.0622	0.2723	Controlled, AP-42, 9/98, Table 1.1-14
Hexane	6.70E-05	0.0174	0.0760	Controlled, AP-42, 9/98, Table 1.1-14
Isophorone	5.80E-04	0.1502	0.6580	Controlled, AP-42, 9/98, Table 1.1-14
Methyl bromide	1.60E-04	0.0414	0.1815	Controlled, AP-42, 9/98, Table 1.1-14
Methyl chloride	5.30E-04	0.1373	0.6012	Controlled, AP-42, 9/98, Table 1.1-14
Methyl hydrazine	1.70E-04	0.0440	0.1929	Controlled, AP-42, 9/98, Table 1.1-14
Methyl methacrylate	2.00E-05	0.0052	0.0227	Controlled, AP-42, 9/98, Table 1.1-14
Methylene chloride	2.90E-04	0.0751	0.3290	Controlled, AP-42, 9/98, Table 1.1-14
Phenol	1.60E-05	0.0041	0.0182	Controlled, AP-42, 9/98, Table 1.1-14
Propionaldehyde	3.80E-04	0.0984	0.4311	Controlled, AP-42, 9/98, Table 1.1-14
Tetrachloroethylene	4.30E-05	0.0111	0.0488	Controlled, AP-42, 9/98, Table 1.1-14
Toluene	2.40E-04	0.0622	0.2723	Controlled, AP-42, 9/98, Table 1.1-14
1,1,1-Trichloroethane	2.00E-05	0.0052	0.0227	Controlled, AP-42, 9/98, Table 1.1-14
Styrene	2.50E-05	0.0065	0.0284	Controlled, AP-42, 9/98, Table 1.1-14
Xylenes	3.70E-05	0.0096	0.0420	Controlled, AP-42, 9/98, Table 1.1-14
Vinyl acetate	7.60E-06	1.97E-03	8.62E-03	Controlled, AP-42, 9/98, Table 1.1-14
Hydrogen Chloride	1.20E+00	310.8000	1,361.3040	Controlled, AP-42, 9/98, Table 1.1-15
Hydrogen Fluoride	1.50E-01	38.8500	170.1630	Controlled, AP-42, 9/98, Table 1.1-15
Antimony	1.85E-05	0.0048	0.0210	Controlled, AP-42, 9/98, Table 1.1-18
Arsenic	4.10E-04	0.1062	0.4651	Controlled, AP-42, 9/98, Table 1.1-18
Beryllium	2.10E-05	0.0054	0.0238	Controlled, AP-42, 9/98, Table 1.1-18
Cadmium	5.10E-05	0.0132	0.0579	Controlled, AP-42, 9/98, Table 1.1-18
Chromium	2.60E-04	0.0673	0.2949	Controlled, AP-42, 9/98, Table 1.1-18
Chromium (VI)	7.90E-05	0.0205	0.0896	Controlled, AP-42, 9/98, Table 1.1-18
Cobalt	1.00E-04	0.0259	0.1134	Controlled, AP-42, 9/98, Table 1.1-18
Lead	4.20E-04	0.1088	0.4765	Controlled, AP-42, 9/98, Table 1.1-18
Manganese	4.90E-04	0.1269	0.5559	Controlled, AP-42, 9/98, Table 1.1-18
Nickel	2.80E-04	0.0725	0.3176	Controlled, AP-42, 9/98, Table 1.1-18
Selenium	1.30E-03	0.3367	1.4747	Controlled, AP-42, 9/98, Table 1.1-18
Total HAPs		352.81	1,545	lb/hr & TPY
Single HAP		310.80	1,361	lb/hr & TPY

Uncontrolled PTE Summary - Coal vs Fuel Oil							
Pollutant	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Coal Combustion	124,786	28,701	7,487	219,851	17,016	68.07	567.21
Fuel Oil Combustion	259.30	129.65	32.41	5,523	3,112	25.93	648.24
Worst Case	124,786	28,701	7,487	219,851	17,016	68.07	648.24
Limited PTE Summary - Coal vs Fuel Oil							
Pollutant	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Coal Combustion	8,348	28,701	7,487	108,904	17,016	68.07	567.21
Fuel Oil Combustion	259.30	129.65	32.41	5,523	3,112	25.93	648.24
Worst Case	8,348	28,701	7,487	108,904	17,016	68.07	648.24

Technical Support Document - Appendix A - Emission Calculations

Boiler - Unit #3

Company Name: Indianapolis Power & Light Company - Petersburg Generating Station

Address: 6925 N. State Road 57, Petersburg, Indiana 47567

MSM Number: T 125-36130-00002

MPM Number: T 125-36156-00002

Plt ID: 125-00002

Reviewer: Anh Nguyen

Date: 8/6/15

Coal Combustion			
Heat Input Capacity	5,540 MMBtu/hr	Permit Limits	
Coal Heat Content	8,000 Btu/lb Coal	SO2 (Coal)	1.20 lb/MMBtu
Coal Throughput	3,033,150 tons/yr	SO2 (Fuel Oil)	0.50 lb/MMBtu
Sulfur Wt%	5.10%	PM	0.10 lb/MMBtu
% Ash	11.00%	NOx (Coal)	0.70 lb/MMBtu
		NOx (Fuel Oil)	0.30 lb/MMBtu
Uncontrolled Potential to Emit			
Pollutant	Emission Factor (lb/ton)	PTE (ton/yr)	Emission Factor Source
PM	110.00	166,823	AP-42, 9/98, Table 1.1-4, SCC 1-01-002-02/22
PM10 (Fil+Cond)	25.30	38,369	AP-42, 9/98, Table 1.1-4, SCC 1-01-002-02/22
PM2.5	6.60	10,009	AP-42, 9/98, Table 1.1-6
SO2	193.80	293,912	AP-42, 9/98, Table 1.1-3, SCC 1-03-002-16
NOx	15.00	22,749	AP-42, 9/98, Table 1.1-3, SCC 1-02-002-12
VOC	0.06	90.99	AP-42, 9/98, Table 1.1-19, SCC 1-01-002-12
CO	0.50	758.29	AP-42, 9/98, Table 1.1-3, SCC 1-03-002-16

Potential to Emit after Issuance (PTE)			
Pollutant	PTE (ton/yr)		
PM10 (Fil+Cond)	38,369		
PM2.5	10,009		
VOC	90.99		
CO	758.29		
Pollutant	Emission Limit (lb/MMBtu)	Limited PTE (lb/hr)	Limited PTE (ton/yr)
NOx	0.70	3,878	16,986
PM	0.10	554.00	2,427
SO2	1.20	6,648	29,118

Methodology:

PTE (ton/yr) = throughput (TPY) * E.F. (lb/ton) / 2,000 lb/ton
 PTE (lb/hr) = PTE (TPY) * 2,000 lb/ton / 8,760 hr/yr
 Limited PTE (TPY) = [Heat input (MMBtu/hr) * Limit (lb/MMBtu) * 8,760 hr/yr] / 2,000 lb/ton

Boiler - Unit #3 - Continued

Fuel Oil Combustion			
Heat Input Capacity	5,540.00 MMBtu/hr		
Fuel Oil Throughput	346,645.72 Kgal/yr		
Wt% Sulfur	0.30%		
Uncontrolled Potential to Emit			
Pollutant	Emission Factor (lb/Kgal)	PTE (ton/yr)	Emission Factor Source
PM	2.00	346.65	AP-42, Table 1.3-1, 5/10, SCC 1-01-005-01
PM10 (Fil+Cond)	1.00	173.32	AP-42, Table 1.3-6, 5/10
PM2.5	0.25	43.33	AP-42, Table 1.3-6, 5/10
SO2	42.60	7,384	AP-42, Table 1.3-1, 5/10, SCC 1-01-005-01
NOx	24.00	4,160	AP-42, Table 1.3-1, 5/10, SCC 1-02-005-01
VOC	0.20	34.66	AP-42, Table 1.3-3, 5/10, SCC 1-02-005-01/02/03
CO	5.00	866.61	AP-42, Table 1.3-1, 5/10, SCC 1-03-005-01

Potential to Emit after Issuance (PTE)		326 IAC 7-1.1 Limitation		
Pollutant	PTE (ton/yr)	Pollutant	Emission Limitation (lb/MMBtu)	Limited PTE (TPY)
PM	346.65	SO2	0.50	12,133
PM10	173.32			
PM2.5	43.33	40 CFR 60, Subpart D Limits		
SO2	7,384	Pollutant	Limit lb/MMBtu	Limited PTE TPY
NOx	4,160	NOx	0.30	7,279.56
VOC	34.66	PM	0.10	2,426.52
CO	866.61			

Notes:

- 1) Coal combustion produces the worst case emissions for all pollutants except CO.
- 2) PTE and Limited PTE will be controlled by coal combustion for all pollutants except CO.
- 3) The potential to emit using fuel oil is less than the allowable emissions under 326 IAC 7-1.1 for SO2. The potential to emit after issuance will be shown as the PTE of the emission unit of 7,384 TPY. The NSPS limit for SO2 is higher than the 326 IAC 7-1.1 limit and is not shown.
- 4) The PTE of NOx and PM are lower than the 40 CFR 60, Subpart D Limits. Therefore, the PTE after issuance is shown as the PTE.

Boiler - Unit #3 - Continued
Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Coal Combustion - HAP Emissions				
Coal Throughput	3,033,150.00	tons/yr		
Controlled Potential to Emit				
Pollutant	Emission Factor (lb/ton coal)	PTE (lb/hr)	PTE (ton/yr)	Emission Factor Source
Total Dioxins-Furans	1.79E-09	6.20E-07	2.71E-06	Controlled, AP-42, 9/98, Table 1.1-12
Biphenyl	1.70E-06	5.89E-04	2.58E-03	Controlled, AP-42, 9/98, Table 1.1-13
Naphthalene	1.30E-05	0.0045	0.0197	Controlled, AP-42, 9/98, Table 1.1-13
Acetaldehyde	5.70E-04	0.1974	0.8644	Controlled, AP-42, 9/98, Table 1.1-14
Acetophenone	1.50E-05	0.0052	0.0227	Controlled, AP-42, 9/98, Table 1.1-14
Acrolein	2.90E-04	0.1004	0.4398	Controlled, AP-42, 9/98, Table 1.1-14
Benzene	1.30E-03	0.4501	1.9715	Controlled, AP-42, 9/98, Table 1.1-14
Benzyl Chloride	7.00E-04	0.2424	1.0616	Controlled, AP-42, 9/98, Table 1.1-14
Bis (2-ethylhexyl) phthalate	7.30E-05	0.0253	0.1107	Controlled, AP-42, 9/98, Table 1.1-14
Bromoform	3.90E-05	0.0135	0.0591	Controlled, AP-42, 9/98, Table 1.1-14
Carbon disulfide	1.30E-04	0.0450	0.1972	Controlled, AP-42, 9/98, Table 1.1-14
2-Chloroacetophenone	7.00E-06	0.0024	0.0106	Controlled, AP-42, 9/98, Table 1.1-14
Chlorobenzene	2.20E-05	0.0076	0.0334	Controlled, AP-42, 9/98, Table 1.1-14
Chloroform	5.90E-05	0.0204	0.0895	Controlled, AP-42, 9/98, Table 1.1-14
Cumene	5.30E-06	0.0018	0.0080	Controlled, AP-42, 9/98, Table 1.1-14
Cyanide	2.50E-03	0.8656	3.7914	Controlled, AP-42, 9/98, Table 1.1-14
2,4-Dinitrotoluene	2.80E-07	9.70E-05	4.25E-04	Controlled, AP-42, 9/98, Table 1.1-14
Dimethyl sulfate	4.80E-05	0.0166	0.0728	Controlled, AP-42, 9/98, Table 1.1-14
Ethyl benzene	9.40E-05	0.0325	0.1426	Controlled, AP-42, 9/98, Table 1.1-14
Ethyl chloride	4.20E-05	0.0145	0.0637	Controlled, AP-42, 9/98, Table 1.1-14
Ethylene dichloride	4.00E-05	0.0139	0.0607	Controlled, AP-42, 9/98, Table 1.1-14
Ethylene dibromide	1.20E-06	4.16E-04	1.82E-03	Controlled, AP-42, 9/98, Table 1.1-14
Formaldehyde	2.40E-04	0.0831	0.3640	Controlled, AP-42, 9/98, Table 1.1-14
Hexane	6.70E-05	0.0232	0.1016	Controlled, AP-42, 9/98, Table 1.1-14
Isophorone	5.80E-04	0.2008	0.8796	Controlled, AP-42, 9/98, Table 1.1-14
Methyl bromide	1.60E-04	0.0554	0.2427	Controlled, AP-42, 9/98, Table 1.1-14
Methyl chloride	5.30E-04	0.1835	0.8038	Controlled, AP-42, 9/98, Table 1.1-14
Methyl hydrazine	1.70E-04	0.0589	0.2578	Controlled, AP-42, 9/98, Table 1.1-14
Methyl methacrylate	2.00E-05	0.0069	0.0303	Controlled, AP-42, 9/98, Table 1.1-14
Methylene chloride	2.90E-04	0.1004	0.4398	Controlled, AP-42, 9/98, Table 1.1-14
Phenol	1.60E-05	0.0055	0.0243	Controlled, AP-42, 9/98, Table 1.1-14
Propionaldehyde	3.80E-04	0.1316	0.5763	Controlled, AP-42, 9/98, Table 1.1-14
Tetrachloroethylene	4.30E-05	0.0149	0.0652	Controlled, AP-42, 9/98, Table 1.1-14
Toluene	2.40E-04	0.0831	0.3640	Controlled, AP-42, 9/98, Table 1.1-14
1,1,1-Trichloroethane	2.00E-05	0.0069	0.0303	Controlled, AP-42, 9/98, Table 1.1-14
Styrene	2.50E-05	0.0087	0.0379	Controlled, AP-42, 9/98, Table 1.1-14
Xylenes	3.70E-05	0.0128	0.0561	Controlled, AP-42, 9/98, Table 1.1-14
Vinyl acetate	7.60E-06	2.63E-03	1.15E-02	Controlled, AP-42, 9/98, Table 1.1-14
Hydrogen Chloride	1.20E+00	415.5000	1,819.8900	Controlled, AP-42, 9/98, Table 1.1-15
Hydrogen Fluoride	1.50E-01	51.9375	227.4863	Controlled, AP-42, 9/98, Table 1.1-15
Antimony	1.85E-05	0.0064	0.0281	Controlled, AP-42, 9/98, Table 1.1-18
Arsenic	4.10E-04	0.1420	0.6218	Controlled, AP-42, 9/98, Table 1.1-18
Beryllium	2.10E-05	0.0073	0.0318	Controlled, AP-42, 9/98, Table 1.1-18
Cadmium	5.10E-05	0.0177	0.0773	Controlled, AP-42, 9/98, Table 1.1-18
Chromium	2.60E-04	0.0900	0.3943	Controlled, AP-42, 9/98, Table 1.1-18
Chromium (VI)	7.90E-05	0.0274	0.1198	Controlled, AP-42, 9/98, Table 1.1-18
Cobalt	1.00E-04	0.0346	0.1517	Controlled, AP-42, 9/98, Table 1.1-18
Lead	4.20E-04	0.1454	0.6370	Controlled, AP-42, 9/98, Table 1.1-18
Manganese	4.90E-04	0.1697	0.7431	Controlled, AP-42, 9/98, Table 1.1-18
Nickel	2.80E-04	0.0970	0.4246	Controlled, AP-42, 9/98, Table 1.1-18
Selenium	1.30E-03	0.4501	1.9715	Controlled, AP-42, 9/98, Table 1.1-18
Total HAPs		471.66	2,066	lb/hr & TPY
Single HAP		415.50	1,820	lb/hr & TPY

Uncontrolled PTE Summary - Coal vs Fuel Oil							
Pollutant	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Coal Combustion	166,823	38,369	10,009	293,912	22,749	90.99	758.29
Fuel Oil Combustion	346.65	173.32	43.33	7,384	4,160	34.66	866.61
Worst Case	166,823	38,369	10,009	293,912	22,749	90.99	866.61
Limited PTE Summary - Coal vs Fuel Oil							
Pollutant	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Coal Combustion	2,427	38,369	10,009	29,118	16,986	90.99	758.29
Fuel Oil Combustion	346.65	173.32	43.33	7,384	4,160	34.66	866.61
Worst Case	2,427	38,369	10,009	29,118	16,986	90.99	866.61

Technical Support Document - Appendix A - Emission Calculations

Boiler - Unit #4

Company Name: Indianapolis Power & Light Company -
 Petersburg Generating Station
 Address: 6925 N. State Road 57, Petersburg, Indiana 47567
 MSM Number: T 125-36130-00002
 MPM Number: T 125-36156-00002
 Pit ID: 125-00002
 Reviewer: Anh Nguyen
 Date: 8/6/15

Coal Combustion			
Heat Input Capacity	5,550 MMBtu/hr	Permit Limits	
Coal Heat Content	8,000 Btu/lb Coal	SO2 (Coal)	1.20 lb/MMBtu
Coal Throughput	3,038,625 tons/yr	SO2 (Fuel Oil)	0.50 lb/MMBtu
Sulfur Wt%	5.10%	PM	0.10 lb/MMBtu
% Ash	11.00%	NOx (Coal)	0.70 lb/MMBtu
		NOx (Fuel Oil)	0.30 lb/MMBtu

Uncontrolled Potential to Emit			
Pollutant	Emission Factor (lb/ton)	PTE (ton/yr)	Emission Factor Source
PM	110.00	167,124	AP-42, 9/98, Table 1.1-4, SCC 1-01-002-02/22
PM10	25.30	38,439	AP-42, 9/98, Table 1.1-4, SCC 1-01-002-02/22
PM2.5	6.60	10,027	AP-42, 9/98, Table 1.1-6
SO2	193.80	294,443	AP-42, 9/98, Table 1.1-3, SCC 1-03-002-16
NOx	15.00	22,790	AP-42, 9/98, Table 1.1-3, SCC 1-02-002-12
VOC	0.06	91.16	AP-42, 9/98, Table 1.1-19, SCC 1-01-002-12
CO	0.50	759.66	AP-42, 9/98, Table 1.1-3, SCC 1-03-002-16

Potential to Emit after Issuance (PTE)			
Pollutant	PTE (ton/yr)		
PM	167,124		
PM10 (Fil+Cond)	38,439		
PM2.5	10,027		
VOC	91.16		
CO	759.66		
Pollutant	Emission Limit (lb/MMBtu)	Limited PTE (lb/hr)	Limited PTE (ton/yr)
NOx	0.70	3,885	17,016
PM	0.10	555	2,431
SO2	1.20	6,660	29,171

Methodology:
 PTE (ton/yr) = throughput (TPY) * E.F. (lb/ton) / 2,000 lb/ton
 PTE (lb/hr) = PTE (TPY) * 2,000 lb/ton / 8,760 hr/yr
 Limited PTE (TPY) = [Heat input (MMBtu/hr) * Limit (lb/MMBtu) * 8,760 hr/yr] / 2,000 lb/ton

Boiler - Unit #4 - Continued

Fuel Oil Combustion			
Heat Input Capacity	5,550.00 MMBtu/hr		
Fuel Oil Throughput	347,271.43 Kgal/yr		
Wt% Sulfur	0.30%		

Uncontrolled Potential to Emit			
Pollutant	Emission Factor (lb/Kgal)	PTE (ton/yr)	Emission Factor Source
PM	2.00	347.27	AP-42, Table 1.3-1, 5/10, SCC 1-01-005-01
PM10 (Fil+Cond)	1.00	173.64	AP-42, Table 1.3-6, 5/10
PM2.5	0.25	43.41	AP-42, Table 1.3-6, 5/10
SO2	42.60	7,397	AP-42, Table 1.3-1, 5/10, SCC 1-01-005-01
NOx	24.00	4,167	AP-42, Table 1.3-1, 5/10, SCC 1-02-005-01
VOC	0.20	34.73	AP-42, Table 1.3-3,5/10, SCC1-02-005-01/02/03
CO	5.00	868.18	AP-42, Table 1.3-1, 5/10, SCC 1-03-005-01

Potential to Emit after Issuance (PTE)		326 IAC 7-1.1 Limitation		
Pollutant	PTE (ton/yr)	Pollutant	Emission Limitation (lb/MMBtu)	Limited PTE (TPY)
PM	347.27	SO2	0.50	12,155
PM10	173.64			
PM2.5	43.41	40 CFR 60, Subpart D Limits		
SO2	7,397	Pollutant	Limit lb/MMBtu	Limited PTE TPY
NOx	4,167	NOx	0.30	7,292.70
VOC	34.73	PM	0.10	2,430.90
CO	868.18			

Notes:
 1) Coal combustion produces the worst case emissions for all pollutants except CO.
 2) PTE and Limited PTE will be controlled by coal combustion for all pollutants except CO.
 3) The potential to emit using fuel oil is less than the allowable emissions under 326 IAC 7-1.1 for SO2. The potential to emit after issuance will be shown as the PTE of the emission unit. The NSPS limit for SO2 is higher than the 326 IAC 7-1.1 limit and is not shown.
 4) The PTE of NOx and PM are lower than the 40 CFR 60, Subpart D Limits. Therefore, the PTE after issuance is shown as the PTE.

Boiler - Unit #4

Company Name: Indianapolis Power & Light Company - Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Coal Combustion - HAP Emissions

Coal Throughput 3,038,625.00 tons/yr

Controlled Potential to Emit

Pollutant	Emission Factor (lb/ton coal)	PTE (lb/hr)	PTE (ton/yr)	Emission Factor Source
Total Dioxins-Furans	1.79E-09	6.21E-07	2.72E-06	Controlled, AP-42, 9/98, Table 1.1-12
Biphenyl	1.70E-06	5.90E-04	2.58E-03	Controlled, AP-42, 9/98, Table 1.1-13
Naphthalene	1.30E-05	0.0045	0.0198	Controlled, AP-42, 9/98, Table 1.1-13
Acetaldehyde	5.70E-04	0.1977	0.8660	Controlled, AP-42, 9/98, Table 1.1-14
Acetophenone	1.50E-05	0.0052	0.0228	Controlled, AP-42, 9/98, Table 1.1-14
Acrolein	2.90E-04	0.1006	0.4406	Controlled, AP-42, 9/98, Table 1.1-14
Benzene	1.30E-03	0.4509	1.9751	Controlled, AP-42, 9/98, Table 1.1-14
Benzyl Chloride	7.00E-04	0.2428	1.0635	Controlled, AP-42, 9/98, Table 1.1-14
Bis (2-ethylhexyl) phthalate	7.30E-05	0.0253	0.1109	Controlled, AP-42, 9/98, Table 1.1-14
Bromoform	3.90E-05	0.0135	0.0593	Controlled, AP-42, 9/98, Table 1.1-14
Carbon disulfide	1.30E-04	0.0451	0.1975	Controlled, AP-42, 9/98, Table 1.1-14
2-Chloroacetophenone	7.00E-06	0.0024	0.0106	Controlled, AP-42, 9/98, Table 1.1-14
Chlorobenzene	2.20E-05	0.0076	0.0334	Controlled, AP-42, 9/98, Table 1.1-14
Chloroform	5.90E-05	0.0205	0.0896	Controlled, AP-42, 9/98, Table 1.1-14
Cumene	5.30E-06	0.0018	0.0081	Controlled, AP-42, 9/98, Table 1.1-14
Cyanide	2.50E-03	0.8672	3.7983	Controlled, AP-42, 9/98, Table 1.1-14
2,4-Dinitrotoluene	2.80E-07	9.71E-05	4.25E-04	Controlled, AP-42, 9/98, Table 1.1-14
Dimethyl sulfate	4.80E-05	0.0167	0.0729	Controlled, AP-42, 9/98, Table 1.1-14
Ethyl benzene	9.40E-05	0.0326	0.1428	Controlled, AP-42, 9/98, Table 1.1-14
Ethyl chloride	4.20E-05	0.0146	0.0638	Controlled, AP-42, 9/98, Table 1.1-14
Ethylene dichloride	4.00E-05	0.0139	0.0608	Controlled, AP-42, 9/98, Table 1.1-14
Ethylene dibromide	1.20E-06	4.16E-04	1.82E-03	Controlled, AP-42, 9/98, Table 1.1-14
Formaldehyde	2.40E-04	0.0833	0.3646	Controlled, AP-42, 9/98, Table 1.1-14
Hexane	6.70E-05	0.0232	0.1018	Controlled, AP-42, 9/98, Table 1.1-14
Isophorone	5.80E-04	0.2012	0.8812	Controlled, AP-42, 9/98, Table 1.1-14
Methyl bromide	1.60E-04	0.0555	0.2431	Controlled, AP-42, 9/98, Table 1.1-14
Methyl chloride	5.30E-04	0.1838	0.8052	Controlled, AP-42, 9/98, Table 1.1-14
Methyl hydrazine	1.70E-04	0.0590	0.2583	Controlled, AP-42, 9/98, Table 1.1-14
Methyl methacrylate	2.00E-05	0.0069	0.0304	Controlled, AP-42, 9/98, Table 1.1-14
Methylene chloride	2.90E-04	0.1006	0.4406	Controlled, AP-42, 9/98, Table 1.1-14
Phenol	1.60E-05	0.0056	0.0243	Controlled, AP-42, 9/98, Table 1.1-14
Propionaldehyde	3.80E-04	0.1318	0.5773	Controlled, AP-42, 9/98, Table 1.1-14
Tetrachloroethylene	4.30E-05	0.0149	0.0653	Controlled, AP-42, 9/98, Table 1.1-14
Toluene	2.40E-04	0.0833	0.3646	Controlled, AP-42, 9/98, Table 1.1-14
1,1,1-Trichloroethane	2.00E-05	0.0069	0.0304	Controlled, AP-42, 9/98, Table 1.1-14
Styrene	2.50E-05	0.0087	0.0380	Controlled, AP-42, 9/98, Table 1.1-14
Xylenes	3.70E-05	0.0128	0.0562	Controlled, AP-42, 9/98, Table 1.1-14
Vinyl acetate	7.60E-06	2.64E-03	1.15E-02	Controlled, AP-42, 9/98, Table 1.1-14
Hydrogen Chloride	1.20E+00	416.2500	1,823.1750	Controlled, AP-42, 9/98, Table 1.1-15
Hydrogen Fluoride	1.50E-01	52.0313	227.8969	Controlled, AP-42, 9/98, Table 1.1-15
Antimony	1.85E-05	0.0064	0.0281	Controlled, AP-42, 9/98, Table 1.1-18
Arsenic	4.10E-04	0.1422	0.6229	Controlled, AP-42, 9/98, Table 1.1-18
Beryllium	2.10E-05	0.0073	0.0319	Controlled, AP-42, 9/98, Table 1.1-18
Cadmium	5.10E-05	0.0177	0.0775	Controlled, AP-42, 9/98, Table 1.1-18
Chromium	2.60E-04	0.0902	0.3950	Controlled, AP-42, 9/98, Table 1.1-18
Chromium (VI)	7.90E-05	0.0274	0.1200	Controlled, AP-42, 9/98, Table 1.1-18
Cobalt	1.00E-04	0.0347	0.1519	Controlled, AP-42, 9/98, Table 1.1-18
Lead	4.20E-04	0.1457	0.6381	Controlled, AP-42, 9/98, Table 1.1-18
Manganese	4.90E-04	0.1700	0.7445	Controlled, AP-42, 9/98, Table 1.1-18
Nickel	2.80E-04	0.0971	0.4254	Controlled, AP-42, 9/98, Table 1.1-18
Selenium	1.30E-03	0.4509	1.9751	Controlled, AP-42, 9/98, Table 1.1-18
Total HAPs		472.52	2,070	lb/hr & TPY
Single HAP		416.25	1,823	lb/hr & TPY

Uncontrolled PTE Summary - Coal vs Fuel Oil

Pollutant	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Coal Combustion	167,124	38,439	10,027	294,443	22,790	91.16	759.66
Fuel Oil Combustion	347.27	174	43	7,397	4,167	34.73	868.18
Worst Case	167,124	38,439	10,027	294,443	22,790	91.16	868.18

Limited PTE Summary - Coal vs Fuel Oil

Pollutant	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Coal Combustion	2,431	38,439	10,027	29,171	17,016	91.16	759.66
Fuel Oil Combustion	347.27	173.64	43.41	7,397	4,167	34.73	868.18
Worst Case	2,431	38,439	10,027	29,171	17,016	91.16	868.18

Technical Support Document - Appendix A - Emission Calculations

Diesel-Fired Emergency Generator - Unit PB-2
 Company Name: Indianapolis Power & Light Company -
 Petersburg Generating Station
 Address: 6925 N. State Road 57, Petersburg, Indiana 47567
 MSM Number: T 125-36130-00002
 MPM Number: T 125-36156-00002
 Plt ID: 125-00002
 Reviewer: Anh Nguyen
 Date: 8/6/15

Maximum Generator Heat Input Rate 28.40 MMBtu/hr
 Hours of Operation 500.00 hrs
 Maximum Sulfur Content 0.3%

Pollutant	Emission Factor	Uncontrolled PTE	Emission Factor Source
PM	0.070	0.50	AP-42, Chapter 3.4, 10/96, Table 3.4-2
PM2.5/10	0.057	0.40	AP-42, Chapter 3.4, 10/96, Table 3.4-2
SO2	0.303	2.15	AP-42, Chapter 3.4, 10/96, Table 3.4-1
NOx	3.200	22.72	AP-42, Chapter 3.4, 10/96, Table 3.4-1
VOC	0.080	0.57	AP-42, Chapter 3.4, 10/96, Table 3.4-1
CO	0.850	6.04	AP-42, Chapter 3.4, 10/96, Table 3.4-1
Benzene	7.76E-04	0.0055	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Toluene	2.81E-04	0.0020	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Xylene	1.93E-04	0.0014	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Formaldehyde	7.89E-05	0.0006	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Acetaldehyde	2.52E-05	0.0002	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Acrolein	7.88E-06	0.0001	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Naphthalene	1.30E-04	0.0009	AP-42, Chapter 3.4, 10/96, Table 3.4-2

Highest HAP Benzene 0.006 TPY
 Total HAP 0.011 TPY

Technical Support Document - Appendix A - Emission Calculations

Diesel-Fired Emergency Generator - PF-1

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Pit ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Maximum Generator Heat Input Rate 0.48 MMBtu/hr
 Hours of Operation 500.00 hrs
 Maximum Sulfur Content 0.3%

Pollutant	Emission Factor (lb/MMBtu)	Uncontrolled PTE (TPY)	Emission Factor Source
PM	0.070	0.01	AP-42, Chapter 3.4, 10/96, Table 3.4-2
PM2.5/10	0.057	0.01	AP-42, Chapter 3.4, 10/96, Table 3.4-2
SO2	0.303	0.04	AP-42, Chapter 3.4, 10/96, Table 3.4-1
NOx	3.200	0.39	AP-42, Chapter 3.4, 10/96, Table 3.4-1
VOC	0.080	0.01	AP-42, Chapter 3.4, 10/96, Table 3.4-1
CO	0.850	0.10	AP-42, Chapter 3.4, 10/96, Table 3.4-1
Benzene	7.76E-04	0.0001	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Toluene	2.81E-04	0.0000	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Xylene	1.93E-04	0.0000	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Formaldehyde	7.89E-05	0.0000	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Acetaldehyde	2.52E-05	0.0000	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Acrolein	7.88E-06	0.0000	AP-42, Chapter 3.4, 10/96, Table 3.4-2
Naphthalene	1.30E-04	0.0000	AP-42, Chapter 3.4, 10/96, Table 3.4-2

Highest HAP Benzene 0.000 TPY
 Total HAP 0.000 TPY

**Technical Support Document - Appendix A - Emission
Calculations
Material Handling Operation**

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

		Limestone Conveyance	Gypsum Conveyance	Limestone Silos	Limestone Ball Mills	Coal Unloading	Enclosed Coal Conveyance	Unenclosed Coal Conveyance
Throughput (TPY)		1,206,252	2,629,752	1,206,252	1,206,252	11,388,000	11,388,000	11,388,000
k	PM	0.740	0.740	0.740	0.740	0.740	0.740	0.740
	PM10	0.350	0.350	0.350	0.350	0.350	0.350	0.350
	PM2.5	0.053	0.053	0.053	0.053	0.053	0.053	0.053
U - Conveyor Speed (MPH)		1	1	8	1	8	1	8
M - Moisture %		0.70	7.00	0.70	0.70	4.80	4.80	4.80
PM Emission Factor (lb/ton)		0.00127	0.00005	0.01897	0.00127	0.00128	0.00009	0.00128
PM10 Emission Factor (lb/ton)		0.00060	0.00002	0.00897	0.00060	0.00061	0.00004	0.00061
PM2.5 Emission Factor (lb/ton)		0.00009	4.00E-06	0.00136	0.00009	0.00009	0.00001	0.00009
Transfer Points		7.0	7.0	2.0	1.0	1.0	15.0	10.0

Uncontrolled PTE (TPY)								Totals
PM PTE (ton/yr)	5.36	0.46	22.88	0.77	7.29	7.69	72.88	117.33
PM10 PTE (ton/yr)	2.53	0.18	10.82	0.36	3.47	3.42	34.73	55.52
PM2.5 PTE (ton/yr)	0.38	0.04	1.64	0.05	0.51	0.85	5.12	8.60

Methodology:

Emission Factor = $(k)(0.0032)[(U/5)^{1.3} / (M/2)^{1.4}]$, AP-42, Chapter 13.2.4, 11/06
PTE = Emission Factor (lb/ton) x Throughput (ton/yr) x Transfer Points x (1 ton / 2,000 lb)

Technical Support Document - Appendix A - Emission Calculations
Fly Ash Handling Operations

Company Name: Indianapolis Power & Light Company -
 Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Maximum Filling Rate Ash Silo 3	200.00	ton/hr		
Maximum Daily Ash Production to Ash Silo 3	700.00	ton/day		
Maximum Hours of Operation for Ash Silo 3	3.50	hr/day	1,277.50	hr/yr

PM Emissions							
Process	Max Throughput (tons/hr)	Emission Factor (lb/ton)	Transfer Points	PTE (lb/hr)	PTE (tons/yr)	PSD Minor Limit (lb/hr)	Limited PTE (ton/yr)
Ash Silo 3 to Railcar Loading	200.00	3.14	1.50	942.00	601.70	5.69	24.92
Railcar Loading Operation (BH-N)	37.50	0.61	1.00	22.88	100.21	5.68	24.88
Totals				964.88	701.91		49.80

PM10/2.5 Emissions							
Process	Max Throughput (tons/hr)	Emission Factor (lb/ton)	Transfer Points	PTE (lb/hr)	PTE (tons/yr)	PSD Minor Limit (lb/hr)	Limited PTE (ton/yr)
Ash Silo 3 to Railcar Loading	200.00	1.10	1.50	330.00	210.79	3.40	14.89
Railcar Loading Operation (BH-N)	37.50	0.61	1.00	22.88	100.21	3.40	14.89
Total				352.88	311.00		29.78

PTE HAP			
	HAP Concentration (ppm)	PTE HAP (ton/yr)	Limited PTE HAP (TPY)
Arsenic	52	0.036	0.0026
Beryllium	3	0.00	0.0001
Cadmium	4	0.00	0.0002
Chromium	39	0.03	0.0019
Cobalt	8	0.01	0.0004
Lead	22	0.02	0.0011
Manganese	59	0.041	0.0029
Mercury	0	0.00	0.0000
Nickel	32	0.02	0.0016
Total HAP (TPY)		0.15	0.0108

Methodology:

- 1) PTE (lb/hr) = emission factor (lb/ton) x throughput (ton/hr)
- 2) PTE (TPY) = PTE (lb/hr) x operation hr/yr x 1 ton/2,000 lb
 Silo 3 - 1,277.50 hr/yr
 BH-N - 8,760 hr/yr
- 3) Limited PTE is from the PSD Minor Limit
- 4) PTE HAP (TPY) = PTE PM (TPY) x HAP concent. (ppm) / 1,000,000
- 5) Limited PTE HAP (TPY) = Limited PTE PM x HAP concent (ppm) / 1,000,000

Notes:

- 1) HAP concentration was provided by the source from a lab analysis.
- 2) Ash silo 3 emission factors are from AP-42, Table 11.12-2 10/2001, pneumatic conveyance of cement.
- 3) Railcar loadout (BH-N) emission factor is from AP-42, Table 11.17-4, for lime loadout.
- 4) 1.5 transfer points are shown for Silo 3 because 1/2 of the fly ash can be transferred from Silo 3 to Silo 4.

Fly Ash Handling Operations - Continued

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station

Address: 6925 N. State Road 57, Petersburg, Indiana 47567

Permit Number: T 125-36130-00002

Plt ID: 125-00002

Reviewer: Anh Nguyen

Date: 8/6/15

326 IAC 6-3-2 Emission Limit Calculation

Process	Max Throughput (tons/hr)	Equation	Uncontrolled PTE (lb/hr)	326 IAC 6-3-2 Limit (lb/hr)	Control Needed for PSD Minor Limit	PSD Minor Limit (lb/hr)	Limit Comply 326 IAC 6-3-2
Ash Silo 3 to Railcar Loading	200.00	B	942.00	58.51	YES	5.69	YES
Railcar Loading Operation (BH-N)	37.50	B	22.88	41.94	YES	5.68	YES

*Emissions from these units are limited by and established PSD Minor Limit. [326 IAC 2-2]

**Ash Silo 3 requires a control device to comply with 326 IAC 6-3-2.

***Railcar Loading Operation (BH-N) does not require a control device to comply with 326 IAC 6-3-2.

Equation A - Process Weight Rates up to 60,000 lb/hr or (30 tons/hr)

$$E = 4.1 \times (P)^{0.67}$$

Equation B - Process Weight Rates in excess of 60,000 lb/hr (30 tons/hr)

$$E = [55 \times (P)^{0.11}] - 40$$

Where: E = Allowable Emission Rate for PM (lb/hr)

P = Process Weight Rate (tons/hr)

Technical Support Document - Appendix A - Emission Calculations
Coal Storage Pile - Wind Erosion

Company Name: Indianapolis Power & Light Company -
 Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

A = Storage Area	30.00	acres
s = Coal Silt Content	2.20	wt %
p = Days > 0.01" rain	125.00	days
f = Days wind > 12 mph	15.00	days
PM 10 % of PM	35.00%	

Emission Factor Calculation

$E_f = 1.7 \times (s/1.5) \times (365 - p) / 235 \times (f / 15)$ AP-42, Section 11.2.3.3, May 1983, Equation 3

E_f = 2.546 lb/acre/day (Total Suspended Particulate/PM)

PM/PM10/PM2.5 Emissions

TSP / PM (ton/yr) = E_f (lb/acre/day) x A (acres) x 365 days/yr x 1 ton/2,000 lb

PM10 = 0.5 x TSP (AP-42, Section 13.2.5.3, May 1983)

PM2.5 = 0.15 x PM10 (AP-42, Section 13.2.5.3, May 1983)

PM / TSP = 2.546 x 30 x 365 x 1/2000 = 13.94 TPY

PM10 = 0.5 x 13.94 = 6.97 TPY

PM2.5 = 0.15 x 6.97 1.05 TPY

Technical Support Document - Appendix A - Emission Calculations Wet Cooling Tower

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Circulation Rate (Q)	224,939	gpm
Density of Water	8.34	lb/gallon
Drift Rate	0.001	%
Total Dissolved Solids (TDS)	2,000	ppm
Hours of Operation (hr/yr)	8,760	hr

PM Emissions

$$\text{PTE PM (lb/hr)} = Q \text{ (gpm)} \times \text{Density (lb/gal)} \times [\text{Drift Rate (\%)} / 100] \times [\text{TDS (ppm)} / 1,000,000] \times 60 \text{ min/hr}$$

PTE PM =	2.25	lb/hr
PTE PM =	9.86	TPY

PM10 Emissions

$$\text{PTE PM}_{10/2.5} = \text{PTE PM} \times 85\%$$

PTE PM _{10/2.5} =	1.91	lb/hr
PTE PM _{10/2.5} =	8.38	TPY

**Technical Support Document - Appendix A - Emission Calculation Sheet
Green House Gas Emissions - Utility Boilers**

Company Name: Indianapolis Power & Light Company -
 Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Number: T 125-36130-00002
MPM Number: T 125-36156-00002
Plt ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Emission Unit	Coal Throughput (ton/yr)	CO ₂ Emission Factor (lb/ton)	CH ₄ Emission Factor (lb/ton)	N ₂ O Emission Factor (lb/ton)	CO ₂ Emissions (ton/yr)	CH ₄ Emissions (ton/yr)	N ₂ O Emissions (ton/yr)
Boiler Unit 1	1,204,500	4,810	0.04	0.08	2,896,823	24	48
Boiler Unit 2	2,268,840	4,810	0.04	0.08	5,456,560	45	91
Boiler Unit 3	3,033,150	4,810	0.04	0.08	7,294,726	61	121
Boiler Unit 4	3,038,625	4,810	0.04	0.08	7,307,893	61	122

Fuel Oil Combustion							
Emission Unit	Oil Throughput (kgal/yr)	CO ₂ Emission Factor (lb/kgal)	CH ₄ Emission Factor (lb/kgal)	N ₂ O Emission Factor (lb/kgal)	CO ₂ Emissions (ton/yr)	CH ₄ Emissions (ton/yr)	N ₂ O Emissions (ton/yr)
Boiler Unit 1	137,657	22,300	0.28	0.26	1,534,876	19	18
Boiler Unit 2	259,296	22,300	0.28	0.26	2,891,150	36	34
Boiler Unit 3	346,646	22,300	0.28	0.26	3,865,103	49	45
Boiler Unit 4	347,271	22,300	0.28	0.26	3,872,072	49	45

Greenhouse Gas Emissions - CO ₂ e Calculation							
	Worst Case Emissions			Global Warming Potential			CO ₂ e (TPY)
	CO ₂ Emissions (ton/yr)	CH ₄ Emissions (ton/yr)	N ₂ O Emissions (ton/yr)	CO ₂ (Unitless)	CH ₄ (Unitless)	N ₂ O Emissions (Unitless)	
Boiler Unit 1	2,896,823	24	48	1	21	310	2,912,207
Boiler Unit 2	5,456,560	45	91	1	21	310	5,485,715
Boiler Unit 3	7,294,726	61	121	1	21	310	7,333,517
Boiler Unit 4	7,307,893	61	122	1	21	310	7,346,994

Notes:

- 1) Emission Factors for Coal Combustion are from AP-42, Chapter 1.1, Tables 1.1-19 and 1.1-20, 9/98.
- 2) Emission Factors for Fuel Oil Combustion are from AP-42, Chapter 1.3, Tables 1.3-3, 1.3-8 and 1.3-12, 5/10.

Methodology:

- 1) PTE (TPY) = (throughput x emission factor) / 2,000lb per ton
- 2) CO₂e = sum(pollutant emissions x global warming potential)

Technical Support Document - Appendix A - Emission Calculation Sheet
Green House Gas Emissions - Emergency Generators

Company Name: Indianapolis Power & Light Company -
Petersburg Generating Station
Address: 6925 N. State Road 57, Petersburg, Indiana 47567
MSM Permit Number: T 125-36130-00002
MPM Permit Number: T 125-36156-00002
Pit ID: 125-00002
Reviewer: Anh Nguyen
Date: 8/6/15

Convert Emission Factors - Kg/MMBtu to lb/MMBtu								
Emission Unit Type	Fuel Type	CO ₂ Emission	CH ₄ Emission Factor	N ₂ O Emission Factor	CO ₂ Emission Factor	CH ₄ Emission Factor	N ₂ O Emission Factor	
Emergency Generators	No. 2 Fuel Oil	73.96	3.00E-03	6.00E-04	162.71	0.007	0.001	

Greenhouse Gas Emissions (TPY)							
Emission Unit	Heat Input Capacity (MMBtu/hr)	CO ₂ Emission Factor (lb/MMBtu)	CH ₄ Emission Factor (lb/MMBtu)	N ₂ O Emission Factor (lb/MMBtu)	CO ₂ Emissions (ton/yr)	CH ₄ Emissions (ton/yr)	N ₂ O Emissions (ton/yr)
Emergency Generator PB2	28.4	162.71	0.007	0.001	1,155	0.05	0.01
Emergency Generator PB3	28.4	162.71	0.007	0.001	1,155	0.05	0.01
Emergency Generator PB4	28.4	162.71	0.007	0.001	1,155	0.05	0.01
Emergency Generator PF1	0.483	162.71	0.007	0.001	20	0	0

Greenhouse Gas Emissions - CO ₂ e Calculation							
	Worst Case Emissions			Global Warming Potential			CO ₂ e (ton/yr)
	CO ₂ Emissions	CH ₄ Emissions	N ₂ O Emissions	CO ₂ (Unitless)	CH ₄ (Unitless)	N ₂ O Emissions	
Emergency Generator PB2	1,155	0.05	0.01	1	21	310	1,159
Emergency Generator PB3	1,155	0.05	0.01	1	21	310	1,159
Emergency Generator PB4	1,155	0.05	0.01	1	21	310	1,159
Emergency Generator PF1	20	0	0	1	21	310	20

Notes:
1) Metric Emission Factors for Fuel Oil Combustion are from 40 CFR 98, Subpart C, Table C-1 and C-2

Methodology:
1) PTE (TPY) = (throughput x emission factor) / 2,000lb per ton
2) CO₂e = sum(pollutant emissions x global warming potential)
3) English Emission Factor (lb/MMBtu) = Metric Emission Factor (kg/MMBtu) x 2.2 lb/Kg



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Governor

Carol S. Comer
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TO: Jeffrey A Harter
Indianapolis Power & Light Company - Petersburg Generating Station
PO Box 436
Petersburg, IN 47567

DATE: November 20, 2015

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

SUBJECT: Final Decision
Title V - Minor Permit Modification
125 - 36156 - 00002

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:
Tom Rarick Environmental Resources Management (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 8/27/2015



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Michael R. Pence
Governor

Carol S. Comer
Commissioner

November 20, 2015

TO: Pike Public Library 1104 Main Street Petersburg IN

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

Subject: **Important Information for Display Regarding a Final Determination**

**Applicant Name: Indianapolis Power & Light Company - Petersburg
Generating Station
Permit Number: 125 - 36156 - 00002**

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 8/27/2015

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2		Mr. Paul Lake 2364 South CR 750 E. Winslow IN 47598 (Affected Party)										
3		Ms. Andrea Wood 4565 E CR 750 N Petersburg IN 47567 (Affected Party)										
4		Pike County Commissioners 801 Main Street Petersburg IN 47567 (Local Official)										
5		Petersburg City Council and Mayors Office 704 Main St, City Hall Petersburg IN 47567 (Local Official)										
6		Pike County Health Department 801 Main St, Courthouse Petersburg IN 47567-1298 (Health Department)										
7		Mr. Meyer Larry 4715 S. CR 175 E. Winslow IN 47598 (Affected Party)										
8		Tom & Sandy Loveless 138 Nichols Ave Petersburg IN 47567 (Affected Party)										
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